

THE AMERICAN FARMER,



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JUNE.

"The Spirit of Beauty unfurls her light,
And wheels her course in a joyous flight:
I know her track through the balmy air,
By the blossoms that cluster and whiten there;
She leaves the tops of the mountains green,
And gems the valley with chrystal sheen."

It is the happiness of the farmer's occupation, that at this season of most active toil, when the results of his labours are not yet realized to his comfort, the "Spirit of Beauty" is all abroad on the earth, to cheer and gladden him. The broad shadow of the patriarchal oak, the fragrant shade of the climbing, clustering vine, the leafy bowers, the still waters, the fresh, green grass, are all instruments of her ministry; while leaf, blossom, blade, daisy and buttercup, the rose in its queenly beauty, and the lily, arrayed in a glory that Solomon could not rival, come forth at her call.

Let the man of toil cherish their influences; let him not despise, but love the flowers, the "little ones" of the earth—let him "consider the lilies;" let him hearken to their "still, small voice," and he will hear them ever whispering that gentle message of the Father's love, that He who careth for the flowers, will "much more" care for him.

WORK FOR THE MONTH.

CORN.

This crop requires the special care of the cultivator during the month of June. As soon as the "stand" is secure from the worm and bird, thin to two or three plants to the hill, according to the strength of your land. As we have repeatedly urged before, let the working of the crop be done early. This Magazine would be worth fifty times the year's subscription to every cultivator of thirty acres of corn, for this piece of advice

alone: that after planting at proper distance on ground properly prepared and manured, the crop be quickly worked and early let alone. There is more loss to the crop by working after harvest than by all other disasters together. Think of a man working and spending all proper means to get a beautiful, luxuriant growth, and then, at the very time when it is most in need of ample supplies of nutriment, and when a thousand mouths are seeking it from every source, a murderous implement is put in to tear up and destroy these channels of supply. "Surely, an enemy hath done this!"

In working corn, bear in mind the object you have in view, viz: to destroy the young grass and keep the surface loose. For these purposes shallow cultivation is sufficient, and the ordinary corn cultivator the proper implement. Should the grass, at any time, get the start of you, the mould-board will be necessary to subdue it.

TOBACCO.

This is the great month of the tobacco crop.—To have it well set during the month of June, the battle is more than half won. All the ground must now have at once its second ploughing, if not already done, and be put in thorough order. It will be laid off and crossed at a distance of 2½ to 3 feet each way, and as many hills prepared as your beds will be capable of planting the next season. It is not well to have the hills made too early.

MANURES.

If the manure is not already applied, or on hand, the most readily supplied, and perhaps the best, is the manipulated guano. Sow three to four hundred lbs. to the acre, broadcast, after the ground is put in order and ready for laying off and crossing.

PLANTING.

Plant at first only such plants as are of full size. You will gain no advantage in time by planting small ones; and a close drawing of the beds is injurious to them. Young planters are apt to make a mistake on this point, in their desire to make sure of the "season." Let them remember the very great advantage of having well grown plants, in the certainty of getting a stand, in the rapidity with which the crop gets out of the reach of the ground-worm and the grass, and in the important point of a quick, unchecked growth, as it effects the quality of the crop. A judicious planter will draw for his first planting with strict reference to the preservation of his beds—a matter of the utmost importance. His object will be rather to relieve the beds of the comparatively few large plants, than to gratify his ambition to make a large planting by drawing a great many small plants to the serious injury of the beds. A bed drawn with judgment at first will improve very rapidly, and in ten days afford a large drawing of good plants.

As regards planting, we will repeat here some suggestions we made two years ago, for the benefit of our new readers. The plants must be carefully set in the ground. In the hurry of planting, careless hands will frequently bend up the tap root, and a plant so put in the ground, will live sometimes ten days or more, and finally die. The ground should be opened with two or more fingers, the root inserted, and the earth pressed firmly back, to the full depth of the hole made. Rapid planters will put the plant in a hole made with a single finger, at the risk of doubling up the root, and merely press up the earth with the thumb at the surface of the ground, leaving the hole unfilled beneath, to the certain destruction of the plant, if the weather comes hot and dry.—The work of planting is always one of excitement and hurry. Quick hands are ambitious to show how much work they can do, and the slower, to keep pace with them. The tendency on the part of all, is rather to do much than to do it well.—It is of the utmost importance, therefore, that the master or manager give his closest attention to the manner in which the work is done. He need not take it for granted that the fastest planters do their work most imperfectly, for this is by no means the case; but let him give his most vigilant attention to see that every one, whether slow or fast, does his work well. The "stand" depends much more on the manner of planting than on the weather after planting.

WEEDING.

The "weeding," as the first hoeing of the crop, is technically termed, is an important operation. It should be done as early as possible af-

ter the plants have taken hold of the ground—say in ten days or a fortnight after planting. In very dry and hot weather, many plants will be destroyed in the operation, without extreme care. A lazy hand, sooner than stoop to pick away the small grass from about the plant, will leave a sprig of crab grass or purslane to strangle it, or will push his hoe so roughly against it as to break or bruise, or sometimes tear it out of the hill; or chop away so much of the earth as to cause its death. In such weather it may be found essential, if the grass is not advancing too rapidly, to postpone the weeding till a shower puts the ground in better condition for the operation. It is the more important to begin the weeding early, to anticipate such a condition of the weather; for it is destructive to the crop to be caught by such a spell "in the grass." Put plaster on the bud when done weeding.

POTATOES.

We ventured the opinion last month, in opposition to the very general advice upon the subject, that the best time for planting, for the main crop of potatoes, is not before the middle of June. As the sun has much power at that time, there are some cautions to be observed in planting, to insure the coming up of the seed. The plantings should be prepared some weeks in advance of the time of planting, and spread out where they will heal without being heated; unless you prefer planting whole potatoes of small size. The potatoes should not be exposed in the field, by being allowed to remain in the hot sun, in baskets or otherwise. They should be dropped in the fresh furrow immediately after it is opened, and covered without delay. Attention to these suggestions will insure the regular coming up of the crop, unless the potato has been damaged previously. As soon as the plants begin to grow, run the harrow over the ground, to break the crust, and destroy such weeds or grass as may be germinating. One or two seasonable workings of this sort, will save much hoe work.

HAY MAKING.

The Clover and Orchard Grass will be fit for hay making this month. The proper time of cutting is a point of much importance. It is suggested that the instincts of bees and other insects are a safe guide for us. They suck the blossoms when the sugar is developed in the plant, and indicate the period when we may most profitably put in the scythe. Professor Horsford determined by experiment, that clover cut when the heads just began to appear, produced only 0.80 per cent. of sugar; but when fully developed, produced 1.15 per cent. of sugar—very near fifty per cent. more

than that cut first. "If clover," he says, "is not cut when sugar is most prevalent, it goes to perfect the seed, and the same loss of nutriment is the result. Bees and other insects never work upon clover before it blossoms, because sugar has not been elaborated; nor after, because it has gone to support the seed, and is not now sugar.

As to curing, we quote from a valuable essay we published a year ago, on Clover Culture:

"The water contained in green clover hay when first cut, amounts to from seventy-five to eighty-three per cent. It also contains a certain amount of sugar, which is easily fermented. Therefore, when cut or placed in a barn or stack, fermentation will be produced, which will destroy the sugar and other nutritive qualities, and vinegar or acid will be produced, rendering the hay sour and unfit for food. If sufficiently dried, the sugar will remain with the fibre, and the hay will be a nutritious, wholesome food for stock, and supply the animals with not only food, but an element, carbon, which will generate animal heat.

"The whole plant contains 11.18 per cent. of ashes; the leaves 10.69 per cent., and the stems 8.52 per cent. All of the ingredients have more or less of valuable properties to support the animal economy. The leaves contain nearly one-fourth part more than the stem alone. They should be carefully preserved. This can only be done by carefully drying the clover before putting it into the barn. The clover may be cut, and permitted to lay in the swarth a few hours to wilt. Let it then be carefully put up into bunches to remain a few days, to cure and partly dry. When it is desired to house it, let the bunches be open and exposed to the air a few hours, and it is then fit to go to the barn. A little salt may be scattered broadcast over the layers. Never let the hay dry so much in the field as to have the leaves or heads drop off by handling or hauling."

Millet, Hungarian Grass, Sugar Millet, Pumpkins, Cymbilins, Sugar Beet, Broadcast Corn, Field Peas—These may all be planted still, but the sooner the better.

GENERAL CULTIVATION.

It is of the greatest importance to get your work in a state of forwardness. It is essential to the proper cultivation of every hoed crop, that the grass be kept thoroughly subdued while young, and never allowed to get a strong hold upon the ground. The homely old proverb, that "a stitch in time saves nine," is very applicable here. You will now be anticipating, too, the engrossing labours of wheat harvest, on entering which, every hoed crop should be left thoroughly clear of grass, and your corn, if you have followed our advice, "laid by."

HARVEST.

If you need extra help at harvest, look it up and make your engagements at once. Get assistance enough to secure your crop in the shortest time, after it is fit for the scythe. Have tools and implements in the best order for use in due time.

TIME OF CUTTING.

We do not advise to any set time or special condition of the crop for cutting. The old standing advice, to begin the harvest two weeks before the grain is ripe, is very unwise, not to say absurd. There are strong reasons why the crop should be cut at the earliest day that its condition admits of it. The quality of the grain is injured by too long delay, and it is imprudent to leave a crop of so much value exposed, unnecessarily, a single day to the risks of weather. But to apply a rule of practice, founded on the slow process of ripening in the temperate season of August and September in England, to our crops, on which three days of our fierce June suns will produce greater change than ten days of the former, is a great mistake. Our advice would be rather to watch the condition of your crop carefully, and be guided by your judgment and experience, or that of a judicious neighbour, and begin *rather too soon than too late*. Better lose something by shrinking, than risk much in quality and quantity by putting off too long.

[For the American Farmer.]

THE THEORY AND PRACTICE OF LANDSCAPE GARDENING ADAPTED TO NORTH AMERICA; By A. J. Downing. *Sixth edition, enlarged, revised and newly illustrated, with a supplement containing remarks about country places and how to make them, &c., &c.,* By HENRY WINTHROP SARGENT. New York—A. O. MOORE, & Co.: 1859.

Although it is common enough to see farm houses, which with their surroundings, seem to have been inspired by a positive love of ugliness, yet it more frequently happens that some attempt is made to embellish even a humble country home. A few trees or bushes or vines are frequently planted, a plot of grass enclosed, which serve to show that the mind of the occupant is not wholly devoid of all love for beautiful things; that he desires to have about him some objects more graceful and elevated than the instruments of coarse necessity, and feels that his nature has higher wants than those of the body. Attempts of this sort are often indeed sad failures, and far from satisfactory to a correct taste. Nevertheless, they show the feeling, and they are failures for the most part, not so much for want of zeal or means, as want of knowledge. Few are insensible to the charm of a rural residence, skilfully embellished, however simple it may be or however elaborate. The pleasure it gives however is very different from the knowledge of the means of producing it, just as the pleasure which a picture or a poem gives, is a different thing from the art of painting or poetry.

The art of adorning a country residence is called Landscape Gardening, and it is simple or complex, according to the objects to which it is to be applied and the designs it is intended to execute. Country houses are of every variety, from a labourer's cottage to a royal palace, and it is the business of art to make each beautiful, and the privilege of art, also, to make the cottage

that is in good taste, a more agreeable object than a palace in bad taste. Each has its appropriate beauty and requires a different degree of knowledge and skill—in some cases, implying the study and practice of a life time; in others, easily attained by any one. As with art, so with cost. It is a very easy thing to spend a fortune in adorning a country seat, and, indeed, nothing is more common than to see fortunes so spent, with very unsatisfactory results. But it is also very easy to create a scene of beauty around a rural home, appropriate to its size and pretensions, with very small expense—so small, indeed, as to be within reach of every owner of the soil. In this, as in all the best and purest enjoyments of life, the materials are provided in plenty by the bounty of nature, if we only have the wisdom to use them. It is important that this truth should be known. It would tend greatly to the embellishment of the country and add to the rational and refining enjoyments of all who live in it. The abodes of wealth are few, and confined, for the most part, to the neighbourhood of large towns; but the country is made up of farms, where opulence is rare, though competence and substantial comfort are general. If every farmer knew that the means of improving his place are within his control, that it is an easy thing, at trifling cost, to make his home an object of admiration to all who see it, and a source of delight to himself and his family, naked, cheerless, desolate-looking houses, without trees, or shrubbery, or flowers, and expressive of a barren, rude, uncultivated life, would not be so often seen on rich and productive farms, and a happy influence would be added, to dignify and soften a farmer's life and manners. In this fertile and beautiful State of Maryland such knowledge would be peculiarly beneficial. It is a country of large farms, three hundred acres being an ordinary size, and a thousand, or more, not unusual. The land owners themselves are, many of them, men of refinement, and cultivated minds, living often on hereditary estates, in rural ease and independence. Most of these would be benefitted by more knowledge of Landscape Gardening than they possess, whilst to numbers, its principles would be revelation, opening to them a new world of beauty and interest, and disclosing sources of pleasure in every thing around them, of which they before were ignorant.

The two chief instruments in the hands of the landscape gardener are grass and trees. They are those which nature employs to produce her loveliest scenes, and are within the power of every farmer. They alone, properly used, will give the luxury of neatness, shade and shelter, and the most attractive charm to a country house. Shrubby, flower-beds, gravel roads and walks, costly exotics and "glass," have their beauty and their use, but involve cost and care and skill, whilst grass and trees, the main dependence even in the most elaborate grounds, are offered by nature to all at small sacrifice of money or labour. By their proper management any farmer, may have a lawn and park around his house, of greater or less extent, according to the size of his farm. Lawns and parks are the noblest ornaments of a country residence. They are the boast of the finest and grandest places in England, but their principal advantages, beauty and seclusion, may be had by any one, without difficulty, who has

land enough to devote to the purpose. A lawn is a piece of ground adjoining a house, enclosed to prevent the intrusion of cattle, and kept in short grass,—a "dry smooth-shaven green," and planted with ornamental trees—it may be large or small, of ten or twenty acres or of one or two. It may have winding walks and parterres of flowers and fountains and statues, conservatories, green houses, terraces and other costly embellishments, or it may be simply a smooth turf, neatly kept and shaded by trees. In all its forms a lawn is a pleasant thing to have; in all, grass and trees are its chief beauties; without these it can have no beauty, and with them, however simple and unpretending it may be, it is an ornament that gratifies the most cultivated taste.

Adjoining the lawn and divided from it by a wire or a very light, neat, wooden fence, should be a park. It is a very easy thing to have, a park. It costs less indeed than a lawn, but the word is so constantly associated with our ideas of aristocratic wealth and splendor, that it sounds oddly in connection with a farm and a farmer's life. Parks in England sometimes contain thousands of acres, are filled with deer and kept in exquisite order at vast expense. They are adorned with artificial lakes, winding roads and plantations of rare trees. They are the chief ornament of a great estate and a noble name and the objects of constant care and lavish cost through generations of owners.

But what is a park? It is a piece of land kept permanently in grass and trees. And what are its uses and merits? It surrounds a home with a quiet, peaceful, sylvan scene; it gives to a place an air of seclusion; its groups of noble trees, its broad expanses of verdure, its herds of deer reposing in the shade or feeding on the grass, form a beautiful landscape, and it affords space for exercise,—riding, driving, or walking,—in the privacy of the owner's domain. These are the uses and pleasures of a park, and they can be had here as well as in England, by a farmer who has a few hundred acres, as well as by a lord who has a hundred thousand—if not in as full measure, at least to a very considerable and very desirable degree. On every farm there should be a field for permanent pasture, kept rich by the manure of cattle and sheep grazing on it, or by top-dressing, and untouched by the plough, that the natural grasses, the best for pasture, may take possession of the soil. Every such field should have clumps of trees, to afford shade for cattle. Let such a field surround a house, and it is to all practical purposes a park. It should, indeed, have more trees than are necessary for a pasture, and its beauty would be much increased if it included a piece of wood and a stream of water. The animals would not diminish, but greatly increase its attractions. In England, the parks are grazed not exclusively by deer, but by cattle and sheep also, and the pastoral character they give to the scene, is justly regarded as one of its most beautiful features. A park may be of any size, from twenty to hundreds of acres; and a permanent pasture field may be of any size, that the extent of the farm permits. On a farm of five hundred acres, fifty would not be too much for this purpose, and fifty acres, or less, covered with rich grass and clumps and groves of forest trees, (our native forest trees, which are the finest in the world,) would be a beautiful appendage to a country residence. It

would be really a park, with most of the advantages to be gained by greater size and cost. Indeed where the land is undulating, where masses of wood are interspersed, and where trees have been left or planted in the fields for shade, which ought always to be done, it is very easy to give to the whole farm a park-like character, by running fences that would be visible from the house, in hollows or below the brow of slopes, so that they cannot be seen. Limits are thus concealed; the eye ranges without obstruction; and the grounds adjacent to the mansion, appear to be connected with the more distant landscape, and to form part of it. It is thus obvious that most of our farmers, who have the taste to desire them, may, by acquiring some knowledge of Landscape Gardening, adorn their places with lawns and parks, and enjoy the advantages these confer, thereby adding to the attractions of home, and cultivating those home pleasures and home attachments, which contribute so largely to domestic happiness and virtue.

Some knowledge of rural architecture would also induce them to correct many glaring errors of taste, far too common throughout the country. Every man should desire to have, not merely a convenient and comfortable habitation, but one that should please the eye, suggest agreeable ideas to the mind, and be thus a source of refined enjoyment to himself and to others. A square, bald, naked building, with a flat roof, and eaves flush with the sides, without porch or piazza, is the sort of dwelling frequently seen even on large and productive farms, showing by its size and accompaniments that, not want of means, but want of knowledge, is the cause of its deformity.—Attempts at ornament are, indeed, often made, but without success, because not guided by correct taste. One great source of beauty in all architecture, from cottages to cathedrals, is shadow; a thing familiar to our daily steps, and which, like all the common objects of nature, is contrived by the bounty of God, to afford us delight. Shadow relieves the glare of light and diversifies the monotony of colour, and, whether cast by a passing cloud over the landscape, by the naked branches of winter or the full foliage of summer, whether stretching in long lines from the trees at sunset, or giving variety to the craggy side of a mountain, is always pleasing. Shadow in architecture is produced by projections; and one use of cornices, brackets, architraves, columns, arches, flutings, frets, mouldings, and other ornamental parts of a building, is to cause a rich play of light and shadow over its surface. A house, such as above described, is without this beauty; but it is very easy to give it to any house however humble. Over-hanging eaves, a covered rustic porch or piazza, wings, recesses,—all produce shadow. So, also, trees and climbing vines.—The more irregular a country house is, if well proportioned, the more picturesque it is, because it is more enriched by shadows.

Another source of beauty in architecture is colour,—colour which harmonizes with surrounding objects, with the foliage and branches of trees, with grass, with the sky. In no respect do our farmers offend more grievously against the rules of correct taste than in this. A white house with green window blinds, white palings tipped with green, whitewashed barns, stables, fences, and gates, are seen in all directions. White does

not blend and harmonize with the colours round a house, but is in sharp contrast with them.—Nature does not use white in those scenes of rural beauty which we wish to imitate. There are no white trees, or fields, or rivers, or hills. In the bleak desolation of nature, her coldness, or grandeur or terror, she uses white; in the snow-clad fields of winter, in the Arctic regions and the Alps. But the feelings inspired by such scenes, however sublime, are not those that we wish to bring into our homes. The glare of white is intolerable, and it is inadmissible in any part of a country house, except, perhaps, in some small objects, as a dairy over-shadowed by trees or a row of hen-coops in a poultry-yard. Let us imitate Nature! What colours does she combine with the verdure of grass and trees? Why, rock-colour, stone-colour, earth-colour, grey, slate, drab, brown. These, then, are the proper colours for buildings and fences and gates, and these are always used by persons of cultivated taste. They not only please the eye, but they have the remarkable property of looking cool in Summer and warm in Winter; whilst white, on the contrary, looks hot in Summer and cold in Winter. They are also cheap. They are easily produced by mixing a little lamp-black and umber, or Indian red or ochre with whitewash or white lead, and if they cost a trifle more, this is compensated by their being far more durable.

Both landscape gardening and rural architecture are arts, and before their beautiful results can be attained, some knowledge of their principles must be acquired. It is knowledge very pleasant to possess and exercise, and pleasant also to acquire. It is offered to the American farmer in a form most agreeable and well suited to the conditions of American country life, in the works of Mr. Downing, which, whilst they explain the principles of art, are also eminently practical.—They embrace the embellishment of grounds, directions for planting, descriptions of ornamental trees, shrubs, flowers and vines, and the best mode of producing expressive effect as well as comfort and convenience, on all classes of places, from the little plot around the simplest home to the lawn and park of the large proprietor. He treats, also, of domestic architecture in the same spirit, and bestows as much attention on the working man's cottage as on the sumptuous villa. He enters into the most minute details, porches, fences, gates, palings, out-buildings of every description, for all contribute to the general effect. His instructions both as to houses and grounds, are accompanied by plans and estimates and engravings well executed to illustrate and explain the text; and his books are written in a simple and pure style; always graceful and often eloquent. His chief works are "Landscape Gardening" and "Country Houses." A new and handsome edition of the former has recently been published by Mr. Henry Winthrop Sargent, of Wodenethe, a beautiful residence near Fish-kill on the Hudson River. Mr. Sargent was a friend of Mr. Downing, and is himself celebrated for his knowledge and taste and practical skill in horticulture, and all branches of the gentle science of rural beauty. He has enriched Mr. Downing's work by valuable notes, and added an appendix, containing a list of new trees and shrubs, suitable to our soil and climate; giving also a detailed account of the different means employed for the embellishment of two

country residences—his own and Wellesly, the seat of Mr. H. H. Hunnewell, near Boston. At Wodenethe, the house was built in a wood, and the trees afterwards thinned to produce groups and open spaces for lawn and park. At Wellesly, on the contrary, the house was built on a naked field, and the trees and shrubbery planted afterwards. Prints are given of houses and grounds on both these places, and the results produced in a few years by the combined powers of knowledge, taste and capital, are surprising and also encouraging. In his account of the creation of these two country seats, Mr. Sargent gives many hints and instructions in the art of making all country seats. He, also, in the appendix, notices and describes some of the most remarkable residences in the neighbourhood of our large cities, and mentions, with approbation, those near Baltimore: Farmlands, the estate of Mr. G. W. Lurman; Hampton, the magnificent seat of Mr. John Ridgely, which, Mr. Sargent says, "expresses more grandeur than any other place in America;" Clifton Park, the residence of Mr. John Hopkins, "unquestionably one of the most elaborate places in this country;" Lyndhurst, the country seat of Reverdy Johnson, Esq., and Carroll Manor, a noble, historical, old estate, "with a turf unbroken for nearly two hundred years, and of the softness and thickness of velvet." On the West River and on the Eastern Shore, Mr. Sargent would have found also many places worthy his notice, had he visited them; large farms, good houses, hereditary homes, with hereditary oaks around them, and old-fashioned hospitality within.

Does any one wish to have a comfortable, convenient and handsome house, to surround it with garden, lawn and park, with the beauties of nature heightened by art, and to do all this on a large scale or a small scale, at great expense or trifling expense, let him read the books of Mr. Downing. They have exerted extensive and beneficial influence and assisted largely in spreading, informing and refining the love for rural life now happily increasing so rapidly among us. In Maryland this taste has always existed and perhaps nowhere in America is there a larger proportion of the cultivated classes of society, who reside in the country. To such of these as have not profited by the labors of Mr. Downing, his books will prove a source of intellectual pleasure as well as a means of improving, at the same time, their minds and their estates. They would thus confer a benefit on the public, for such is the nature of a farmer's occupation, that every thing he does to adorn his home, gives pleasure, not to himself only, but to every passer by and every example of success exerts a happy influence on a whole neighbourhood.

CECIL.

WASH TO DESTROY INSECTS.—In the *Journal of the Horticultural Society of Paris*, it is stated that an excellent wash for destroying insects is made, by boiling 1½ pints of water, 62 grains of Red American potash, and the same number of sulphur, and the same of soap. If it is necessary to make it stronger, double the quantity of sulphur and of potash, leaving the soap the same. Immersion for a second kills ants, large caterpillars, and cockchaffer grubs. The solution does no harm to plants.

MD. AGRICULTURAL COLLEGE—SUGGESTIONS.

GREENWOOD, Montgomery Co.,
May 6th, 1859. }

N. B. Worthington, Esq.

My Dear Sir :—Since the last meeting of the Board of Trustees of the Agricultural College of Maryland, I have received, in answer to my application for his views upon the subject, the enclosed interesting and able letter from Professor Benjamin Hallowell, late and for many years favourably known as Principal of the Boarding School for boys in Alexandria, Va. Deeming the views and suggestions of Professor Hallowell, as founded in wisdom, and of very great importance, and entitled to consideration from his long experience as a successful teacher of natural sciences, and devotion to agricultural pursuits, as well as from his acknowledged ability and the intrinsic value of the letter itself, I do not think I can do better than to ask you to give this paper a place in the June number of the *American Farmer*, to enable the Trustees and patrons of the College to read and consider its valuable suggestions before the next meeting of the Board. It may be proper to add that Professor Hallowell, has retired from teaching and is now devoting himself to practical agriculture upon his farm in this county, and to occasional lectures upon its kindred sciences in his neighbourhood.

Very truly, and respectfully yours,

A. B. DAVIS.

SANDY SPRING, Md., 4th mo., 22d, 1859.

Esteemed Friend :—I have given to the subject thou mentioned to me, some days ago, considerable thought; and the result of my reflections upon it I now send thee, and shall be glad if it contain even one idea that will aid the Trustees in maturing their arrangements, viz :

In considering a plan for the contemplated Maryland Agricultural College, it appears unnecessary to make any reference to the Collegiate Course of Studies, inasmuch as it is presumed this Course will accord with that pursued in the best Institutions of Learning in our country.—What is desired, is, a plan of connecting such Course with proper instruction in the important subject of Agriculture, and its associate branches of Natural Science, viz : Geology, Botany, Vegetable Physiology, and Agricultural Chemistry.

Any plan that can be devised in advance, will necessarily require to be greatly modified by the experience which the practical operations of the new Institution, and those alone, can give; but my present reflections and experience lead me to suggest something like the following. I make the suggestions the more freely, because I have no doubt several others will make suggestions in regard to the same subject, and that the Trustees will then combine what may be valuable from the different communications, with their own reflections, and thus form a working plan adapted to the wants of the College.

During the First Year, by the Freshman Class.

STUDIES. *Elements of Natural Philosophy*, so far as to include the Properties of Matter and the Laws of Motion, and the principles of the Mechanical Powers, Hydrodynamics, Pneumatics, Meteorology, and Mechanical Electricity.

Elements of Chemistry, so far as an acquaintance

with the imponderable agents, Heat, Light, Electricity, and Galvanism, with their relations particularly to vegetable and animal life, the laws of chemical affinity, and the properties and combinations of the fifteen elements that constitute all organized bodies.

Out-door Operations.—Let the student see and perform as many operations as practicable, upon the farm and in the garden. Have each student to plant a tree, or shrub, as may best accord with his taste, and give it all necessary attention thereafter, in training, pruning, &c. The watching of its development under his care, will, in the successive years of his continuance at college, create an interest that will draw him abroad, and induce an observation of the comparative growth of the one he planted, and those planted by his fellows. Then this awakened and interested feeling, in connexion with vegetable development and growth, can readily be directed, by judicious and sympathizing instructors and guardians, to other objects of value and instruction on the farm, with almost a certain prospect of the ideas thus acquired making a lasting impression.

Sophomore Class, Second Year.

STUDIES. Geology, so far as an acquaintance with the order of the different strata, with their associate metals and minerals, their compound rocks (specimens of which should be gradually collected at the Institution, in order that the students may become *practically* acquainted with them), and the soil that results from the disintegration of each particular rock, with the qualities and general character of such soil; also, the geological formations around the College.

Botany, commenced, and directed particularly to Agricultural and Horticultural pursuits.

Junior Class, Third Year.

Botany, completed, including Agricultural Botany, in which the Botanical names and the properties of all the esculent and other plants, met with on a farm, are given; together with the changes that have been produced in many by cultivation; and the modes, where any are known, of destroying plants that are noxious to the farm.

Vegetable and Animal Physiology, connected with which there should be instruction in respect to the varieties in the quality of different vegetables as food for animals, that while some contain more of the principles that produce fat and warmth, they will not proportionately *nourish the muscles and impart strength*, owing to a difference in elementary constitution.

Senior Class.

Agricultural Chemistry, including, if practicable, the analysis of soils and of foreign manures. The students should also be practically instructed in the best mode of preparing and applying home manures for agricultural purposes, and shown that the excrementitious matter from one adult, properly preserved and applied through a series of years, will maintain an acre of land, under heavy cropping, in a high state of fertility.

All the classes should see and perform, each year, as many operations as practicable upon the farm and in the garden. In getting them to do this, pleasantly and profitably, much will depend upon the *tact* of those to whom shall be entrusted this particular and important part of the Course of Instruction. The operations upon the farm,

the manufacture of farming implements, &c., may be made an entire substitute for gymnastic games, play at foot ball, &c., in affording necessary physical exercise, and with equal, perhaps superior, benefit to the health of the mind and of the corporeal system.

In commencing the College, it appears to me important to have none but the *Freshman Class* to enter the first year, and then a new Freshman Class to enter at the opening of each of the three successive collegiate years—the former freshmen passing successively to sophomores, juniors and seniors. In the fourth year, the College will be fully organized. In order to carry this out, it will only be necessary to let those whose scholastic attainments would justify them for an admission into one of the advance classes, of which the number will be comparatively very small, either enter your freshmen in order to obtain the instruction in the Agricultural Course, and review their former studies, or wait till your freshmen have advanced to the class they desire to enter.

The *gradual* commencement, though important to the solid founding of any institution, is more particularly so to this College, as it is to be established in a measure, upon an original plan, which will have to be perfected during the operation of the Institution, when can best be ascertained the wants of the establishment and the mode of their supply.

Although the income of the College, by the suggested mode of commencement, might be somewhat less for the first three years, the expenses would be less also, inasmuch as fewer professors and tutors need be under pay.

Natural Philosophy and Chemistry are not usually taught in College till the junior and senior years; but if you would so modify your course of instruction as to let the regular professors of Natural Philosophy and Chemistry in the collegiate course, impart to the freshmen class the information indicated for this class on these subjects as part of the agricultural instruction, one competent additional professor and a tutor would be sufficient for the agricultural department of the College.

Hoping this may be, in a manner, satisfactory to thee,
I remain thy sincere friend,

BENJAMIN HALLOWELL.

A. BOWIE DAVIS.

[For the American Farmer.]

VERMIN.

A new cure for these pests upon animals, has been suggested. It is "Kerosene," or Cannel Coal Oil—specific gravity, .891.

Small animals, such as pigs, puppies, lambs, &c., may be held by the heads, and dipped into a tub or bucket containing it; larger, such as colts, calves, swine, sheep, &c., may be rubbed with the liquid. If one application fails, try another, and the result will be soon manifest. Q.

N. B.—This remedy will be practised, with the more favor by those who have purchased the oil, but have been unable to burn it.

[For the foregoing, we are indebted to an esteemed correspondent in Kanawha County, Va., whose pen has, during the past year, furnished several valuable contributions to our pages.—Eds.]

MARROW SQUASH—RUTA BAGA.

FALLSTON, Harford Co., Md., May 17, 1859.

To the Editors of the American Farmer:

Some time ago I called at your office and left some Yankee Pumpkin seed, (Marrow Squash,) remarking, at the time, I considered them *superior* to any other for the table; and the gentleman who supplied me with them, said that "they had nearly taken the place of all others in Massachusetts."—Even those who are not fond of the common kind, pronounce these very nice. But I find, like many other choice things, there is a *difficulty*; I should be pleased if some one of more experience in pumpkin culture, would name the *remedy*. About the time the vine commences to run, they die, and on examination of the *stem*, just above the ground, (by cutting it open,) I find a large, white worm, nearly an inch long. Other kinds are not troubled with it, though growing at the same time in the same field. In your next issue, give such information as may be had on the subject.

I observe sometimes that you advise your friends to use ruta bagas for stock, and, as I do not agree with you as to time of planting, I will give you the mode pursued in this neighbourhood by those who raise the best and largest crops:

Plough deep, (a clover sod much best after mowing it off,) and harrow and roll well; then with a two-horse plough, ridge it up about two feet apart—pretty high. After settling a day or two, rake off the top smooth to about 8 or 10 inches broad, when it is ready for the drill; three-quarters to one pound best English seed per acre; and when the leaves are about the size of a dollar, hoe the weeds, if any, and do not hill them, and thin them out to about 8 inches apart, and transplant if any should miss; and if the weeds should come, use the cultivator or garden harrow; then, should you have time, scrape the earth from the plants, and there will be no further work till about the 20th of November. Go along and pull two rows at a time, knocking them together to free them from dirt, and lay them in one, and with a sharp knife cut the tops as they lay on the ground; the tops feed to the cattle and sheep, and store the roots as you would potatoes. We usually get 400 to 600 bushels per acre. Cut them in pieces with a spade and feed to stock during the winter and spring—good hay and ruta bagas will make milk as well as flesh—my horses relish them about as well as they would green clover, and the hair of stock fed on them looks much better—a cow will eat about three pecks to a bushel a day. I think they are very good and very cheap food for stock, and scarcely any thing of the same value so little trouble. In feeding to the milk cows, always *milk them first*, this will *prevent* the milk from *tasting* of the article. I store mine in the entry between the stables (of a barn, the back walls under ground,) a layer of straw under and around the heap, and cover with straw, thick, or with bundles of fodder to keep them from freezing in winter or very cold weather. Close the windows and doors well. I put them some six feet high in bulk; they do not need washing before feeding, if pulled at a time when the ground is not muddy. I omitted above to state, that after you turn the first furrow of the ridge, sprinkle guano (Peruvian) at the rate of 400 lbs. per acre along the side of it; then throw the next furrow on it. I determine the *proper quantity* of guano by counting the probable number of ridges; then allowing every peck of guano to weigh

15 lbs., I find what measure of it will go in a ridge to take 400 lbs. per acre. I use a common bucket to sow out of. Care should be taken to sprinkle it uniformly along the ridge. I do not find that they require as much labor as potatoes, and then there is no comparison as to the yield. It is convenient to put them in the same field with corn, and then the land can be used the same as the corn ground next season. Some, who have no drill, take a bottle, cork it, and place a large quill in the cork, and shake it along the ridge in a shallow furrow; they cover about 1½ inches.

Time of sowing, about the 20th July, and not later than 25th if you can help it. Sometimes, if sown earlier, I am informed they grow pethy.—They do not grow much till cool nights.

I have written as though giving directions to a novice, as I often am at a loss to understand many writers, because they usually give directions as though they intended to give lessons to one who had nearly as much experience as themselves. If I am not sufficiently plain, it will be time enough in your July number to say more. Wishing you every success, I am, respectfully,

WM. H. MORGAN.

NOTE.—We are informed by Mr. Brewer, of the Boston Cultivator, that the worm spoken of as destroying the Marrow Squash, attacks the Hubbard in the same way, and with no remedy as yet.—Eds.

ENGLISH SHEEP.

The sheep is a native of most countries, but has been most cultivated in Europe, and especially in Great Britain. The indigenous breeds, such as the Dorset, Exmoor, Norfolk, Yorkshire, Wiltshire, Welsh, Scotch, &c., all had horns. These ancient breeds have now chiefly disappeared before the English plough, and have been replaced by breeds more in accordance with our improved agriculture, namely, the Leicester, South Down, and Long-woolled, the Shropshire, Exmoor, Cheviot, &c.

LEICESTERS.

The establishment of this breed of sheep dates from the successful career of the late Mr. Bakewell. The Leicester, as a lowland sheep, is without a rival, and has improved, if not given the principal value to the other long-woolled sheep. Mr. Sanday, Holmpierrepont, has kindly furnished me with the original documents of the "Disbley Society." An instance may be given of the high celebrity of the Disbley or Bakewell breed of Leicester sheep in the early days of improvement. On the 16th of November, 1793, Mr. Paget (the President of the Society) sold, by public auction, 200 Leicester ewes at sums varying from 16 to 62 guineas each! the 200 realized 2600 guineas!!

The most direct descendants from the old Bakewell stock at the present day are the flocks of Mr. Sanday, as handed down to him through Messrs. Burgess and Stubbins; of Mr. Pawlett, from the flock of the late Mr. Stone; of Mr. Creswell, from the old Holmpierrepont flock; of Mr. Umbers, from the Disbley, through the late Mr. Buckley; of Mr. Spencer, from the Cotgrave and other flocks; of Mr. Tarr, through the flock of Mr. Skipworth, which was also from the old Holmpierrepont flocks.

Since Mr. Sanday commenced showing, about eight years ago, 34 prizes have been given, of

which he has received 16, and Mr. Pawlett 13, leaving 5 only for all other competitors.

SOUTH DOWNS.

These sheep, like the Leicesters, are destined for a particular purpose; they are unquestionably the best animals we have "as a working flock;" they feed more readily upon elevated situations, and on the natural pastures and heaths of open lands; for the purpose of folding they are unrivalled. The country is much indebted to the early founders of this admirable class of sheep. The late Mr. Ellman was mainly instrumental in carrying on this great work of art. Subsequently others have given their aid; amongst whom Mr. Ellman's successors at Glyde; the late Mr. Grantham, Mr. Jonas Webb, the Duke of Richmond, Messrs. Rigden, Overman, Sainsbury, &c., are most familiar to our ear.

THE BABRAHAM SOUTH DOWNS.

Mr. Webb has been a breeder about 35 years.—He commenced by purchasing the best ewes from the leading breeders in Sussex, regardless of expense, and then, like the celebrated Bakewell, (with the Leicesters,) set to work to remodel them into his own class and character of "South Down," and has never since had a cross with any other breed. Mr. Webb commenced his career as an exhibitor at the Cambridge meeting in 1840; he then, as a young hand, exhibited stock ewes and shearing ewes, for which he received both the first prizes.—Experience has since taught him that the fattening of ewe stock for exhibition is a losing game, and he has exhibited rams only. I need scarcely record his success, it having been almost invariable. Experience has also shown him the folly of over-fattening aged rams for exhibition, and he has latterly, as a rule, shown only shearing rams, and these to perfection. At the great "International Exhibition" of France in 1856, Mr. Webb exhibited his shearing rams and obtained prizes.

THE GOODWOOD FLOCK OF SOUTH DOWNS.

A flock of South Down sheep has been kept at Goodwood, in the county of Sussex, for upwards of 100 years. In the year 1825, the present Duke of Richmond turned his attention more particularly to the improvement of the flock, and with this view purchased some of the best animals obtainable.—Since the year 1830, sheep selected from this flock have gained 8 gold and 31 silver medals, at the Smithfield Club Show; since the year 1840, 17 prizes at the meetings of the Royal Agricultural Society; and since the year 1847, 17 prizes at the Sussex County Shows. The animals that gained these prizes were not only bred at Goodwood, but were also nearly all descended from animals bred there. The flock numbers upwards of 2000, exclusive of 1000 lambs which are annually bred. A large proportion that are drafted yearly are sold for breeding purposes, and much inquired for by foreigners as well as English breeders.

Mr. Rigden, of Hove, Messrs. Sainsbury, Overman and others, are also noted as South Down breeders.

The South Downs are chiefly bred in the counties of Sussex, Surrey, Hants, Wilts and Dorset; there are also several eminent breeders in Cambridgeshire, Norfolk and Suffolk; in fact but few English counties are without them. Many flocks are also kept in Ireland and Scotland.

LONG-WOOLLED SHEEP.

This class embraces the Lincolns and Cotswolds,

together with other breeds of similar cast and character. The Long-wools of the eastern and marshy districts of England were among the earliest strong-natured sheep of our Island; their coarse bone and flesh and strong staple of wool, collectively made them a hardy and valuable race for the endurance of a wet and wintry life upon their native plains.

The old Teeswater and Romney Marsh sheep were much of the same family, separated only by distance and management. These respective breeds have been since remodelled—and with this the Leicester sheep has had much to do.

Amongst the earliest attempts to remodel the old Long-woolled Lincoln breed was the formation of a society at Lincoln in July, 1776.

The introduction of the "Dishley breed" among these extremely coarse animals, quickly told upon the old flocks, and, in fact, created a new middle-class animal. It is to this admixture that Lincolnshire is so much indebted for the splendid "lamb-hogs," of which full 60,000 are not unfrequently seen at Lincoln April Fair. The principal hog-breeders are Messrs. Battersby, Howard, Slaters, Dudding, Pell, Reyworth, Mawer, Clarke, &c. I have known 14 months old lamb-hogs slaughtered at Lincoln Fair, 30 together, averaging 35 lbs. per quarter; and I have known 100 together clip 14 lbs. each of washed wool.

The leading ram-breeders of the present day are the Messrs. Clarke, Kirkham, Casswell, Richardson, Chaplin, Gilliott, Tarr, Abraham, Lynn, &c. It is to be regretted that the Lincolns do not enter into competition with the Cotswolds.

THE COTSWOLDS

Are of ancient date, their original office having been that of enduring the climate of the wild and then uncultivated Cotswold hills. They have since been remodelled by successive breeders, until they have now attained a very high position amongst "the established breeds." They are chiefly bred in the county of Gloucester and surrounding districts, and are not unfrequently called "Gloucesters," but this name has now become merged into the one title of Cotswolds.

They are raised of enormous size and weight, proving their possession of a good constitution and aptitude to fatten. As a remodelled breed they are much indebted to the Leicester blood, retaining, however, their original "Cotswold" characteristics of size, fleece and lean meat. The other original long-woolled breeds, such as the Teeswater, Kent sheep, &c., have now become nearly extinct by the repeated use of Leicester rams.

At the late Chester Meeting, the classes were confined to 136 Cotswolds. Of

SHEARING EWES

There were 15 entries. This was a remarkable class, and said by the Cotswold and other breeders to excel that of any former show, which argues well for the rising generation. The leading breeders of this eminent class of sheep are Messrs. W. Hewer, W. Lane, R. Garne, E. Handy, E. Buck, T. B. Brown, W. Smith, I. K. Toombs, T. Porter, W. Cothier, G. Fletcher, T. Walker, &c. The name of the late Mr. C. Large must not be omitted, as he was mainly instrumental in the early improvement of these sheep. When shown as hogs at the local fairs they weigh from 22 to 26 lbs. per quarter, and carry from 9 to 10 lbs. of wool each. The Emperor of the French has expressed his "delight" at the quality of their mutton. These sheep have been

much sought after for crossing other breeds. Rams have been known to weigh from 70 to 80 lbs. per quarter; ewes have also been killed weighing from 60 to 70 lbs. per quarter. It is the practice of the ram-breeders to sell their shearing rams, every year about the month of August. Mr. Cothier, Middle Aston, Oxon, auctioneer, has sold upwards of 1000 rams for these breeders in one year. There is an export trade to France, America, Australia, &c., which is increasing.

OTHER SHORT-WOOLLED BREEDS, NOT BEING SOUTH DOWNS.

The working of this class conveys the impression that there are many "other short-woolled breeds," which is correct to a certain extent. They number amongst them the Hampshire, Wiltshire and Shropshire Downs, and even Cheviots. But the Hampshire and Shropshire breed are the only breed which really come into competition. The Hampshire sheep are clearly descended from an original hardy race peculiar to the country, possessing in early days the same bony characteristics as the long-woolled Lincolns. They have partaken of the improvements of other breeds; but their strength of constitution and size have been retained as characteristic of the animal, less attempt having been made to imitate the beauty and high proof of the South Down. These sheep, as seen in numbers upon their native soils, are bold, rent-paying animals. As show sheep they have not requisite uniformity of cast and quality.

The Shropshire sheep also date their origin from an old county breed—the Morfe Common sheep, which ancient history describes as having "thick coats, peckled faces." The Society's meeting at Shrewsbury in 1845, first introduced this breed to public notice, and sales of rams were then made at from 5*l*. to 7*l*. each, and of ewes at about 2*l*. each. Then followed the special classes opened for them at the Gloucester meeting in 1853. They had now obtained a great name for robustness of form and wool, as a dark-faced, short-woolled sheep. A great stimulus was thus given to the trade in these sheep, and large prices were realized. On some occasions rams reached an average of 20*l*. each, and ewes made 5*l*. to 10*l*. each. Their average weight of wool over a whole flock is from 6 to 7 lbs. per fleece. One of the oldest flocks, from which many of the best sheep are descended, was that of the late Mr. Mines, of Berrington, near Shrewsbury, established upwards of ninety years ago. These were originally a large "peckled-faced" breed, and then made 25 lbs. per quarter at two years old, without artificial food. The fancy of breeders has since turned more to self-coloured faces, the "peckled-faced" are rejected as breeding sheep, and by degrees, with proper selection, they have become uniformly of a grey colour; some families, however, being much darker. Attempts to improve the breed by crossing them have proved a failure. With the South Down cross the result has been a loss of size and wool, and with the long-woolled sheep there has been a loss of character in coat and quality.—Shropshire Downs appear well adapted to the midland counties, and they are being tried in other localities also. Professor Wilson gives an interesting account of these sheep in his paper 'On the Various Breeds of Sheep in Great Britain.' (Royal Ag. Soc. Journal, vol. xvi.) The most popular breeders of these sheep are W. O. Foster, Esq., M. P., Kimber Hall, Stourbridge; E. Holland, M. P.,

Dumbleton Hall, Eversham; G. Adney, of Harley, Much Wenlock; H. Smith, Jr., Sutton Madock, Salop; James and Edward Crane, Shrawardine, Shrewsbury; Mr. Baker, Grindon, Atherstone, &c.

The Cheviots, although classed as a short-woolled breeds, cannot enter into competition with the others, being, in fact, the representatives of a mountain district, and not of a highly cultivated country.—*Journal of the Royal Agricultural Society of England—Report on the Exhibition of Live Stock at Chelster in 1858.—Condensed.*

ANNULAR DECORTICATION OF THE VINE TO HASTEN THE RIPENING OF THE GRAPE.

Translated by one of the Editors, from the FLORE DES SERRES.

At one of the last sittings of the Imperial Agricultural Society, a member of that Society, M. Bourgeois, presented vine branches incised circularly the preceding year, with a view to experiment upon a method now for a long time extolled as a means of accelerating the ripening of fruits. According to this agriculturist, the operation resulted in advancing maturity some days, and in making fruits attain a more considerable size, a double advantage which is to be appreciated especially in cold localities or such as have bad exposure, so frequently met with in the neighbourhood of Paris and in the north of France generally. He adds, that in so far as it concerned the vine, it had in addition the effect of preventing the blighting and falling of the berries.

In his experiment, M. Bourgeois proposed to himself to decide the following questions left undetermined by his predecessors: 1st, to fix the epoch in which the annular incision has most chances of success—2d, to determine the width and depth of the incision—3d, to discover whether it is best to make it on this year's branches or on the old wood—4th, finally, to be assured of the precise point where it ought to be made, relatively to the bunches, in order to produce all the effects expected.

The discussion was opened upon these different points of the question, and many members took part in it; these are the most important conclusions to which they arrived. M. Pepin acknowledged that the annular incision of the branches of the vines deserved to enlist the attention of the cultivators of the vine; he believed that it might be of real service when the vines are placed in conditions altogether unfavourable, and that its habitual consequences are a more precocious or more perfect ripening of the fruit.

M. Hardy had for ten years practised annular decortication as well upon the vine as upon other fruit trees; he too believed that it advances the ripening, in a proportion which varies according to situation, from four to seventeen days, but he remarked at the same time, that it diminished the quality of the fruit. He cites as pertinent to this a proprietor of vineyards, near Soissons, who having practised the operation upon a great scale, was obliged to abandon it, in consequence of the deterioration of his wines, the prices of which remained lower than those of the wines of his neighbours who had not practised the operation.

A third member, M. Chivereux, having examined and tasted the grapes presented by M. Bourgeois declared that he found a sensible difference between those which were situated below, and those which were above the incision. These last

appeared manifestly inferior to the others, as well in the flavour as in the size and firmness of the berries.


Notwithstanding that the practice of the annular incision upon the vine goes back to the year 1776, M. Hardy observed that it has no where become general; it has always on the contrary remained in the condition of a simple experiment. Sober cultivators of the vine have never used it otherwise than by way of curiosity. Such, in particular, is the case with those of Thomery, so skilful and so attentive to minutia in the matter of vine culture, and who have never adopted the annular incision as a means of improving their crops.

As a last remark, M. Pepin declares that the annular incision has the effect of constantly weakening the subjects upon which it is practised, which is, it must be avowed, more than a compensation for the advantages that it can offer. M. Hardy confirms what was said by M. Pepin, by facts taken from his own observation. Trees always suffer, and their life is more or less abridged after having been submitted to annular decortication, at least during many succeeding years.

These results will not surprise persons accustomed to reflect. It is a fact, very general if not without exception, that the fruits which, without detaching themselves from the tree, undergo any change whatever, whether in consequence of a disease of the subject which bears them, whether from the fact of a puncture by an insect, whether from any other cause, take much before those that have remained healthy, the appearances of maturity.

There is no one who has not remarked this upon cherry trees, apricot trees, plum trees, &c.; the fruits of which attacked by some one of the accidents that we have just enumerated become coloured with the tints of ripeness before they have perfected their normal shape, but it is known too that their flavour is greatly changed. The annular incision having the effect of impeding or even of arresting the advance of the sap, which, if it were abandoned to its natural course, would be attracted by the fruit, produces upon the latter an effect analogous to that which an accident would originate, such as the partial breaking of the branch or that of the tree itself. The fruit not receiving more or receiving less sap has the sooner completed the elaboration of it, but even from that also, it is poorer in juices, relatively to the mass of its solid tissue. And as to the weakening of the tree, it results from the disorder brought into its constitution by the continued derangement of the equilibrium which ought to exist between the work of its roots which absorb and that of the organs in the air which elaborate. In fine, annular incision is an operation contrary to nature, consequently bad and admissible only in the case where the conditions of culture are so unfavourable that the only choice is between gathering imperfect fruits or gathering none at all.

NDN.

 A correspondent wants information on buckwheat culture. We will accommodate him in next number, which will be time enough. In the meantime he may have his ground ploughed, and provide himself with three pecks of seed per acre.

ON LIQUID MANURES.

BY AUGUSTUS VOLCKER.

Condensed from the last No. of the Journal of Royal Agricultural Society of England.

Liquid manure, it need hardly be observed, may be produced in a variety of ways. It may consist chiefly of the fermented urine of horses, or cows, or pigs, or a mixture of them all; or it may be produced by converting the solid and liquid excrementitious matters of our domestic animals into a muddy liquid; and in this process of liquifying the solid excrements and preparing them for distribution on the land, much or little water may be used. These and several other circumstances must, of course, affect the composition of liquid manure, and with it its fertilizing value.

Experience has shown that liquid manure produces the most beneficial and most striking effects when applied to light, deep, sandy soils, resting upon a porous subsoil. However poor originally such a soil may be, after repeated applications of liquid manure it is rendered capable of yielding remunerative and even large crops. Witness, for instance, the almost sterile sands which abound in Flanders, and the astonishing change which it effects upon them.

Provided the subsoil be well drained or of a porous nature, it may be safely asserted that any sandy soil, however sterile in its natural state, may be made to yield heavy crops through the instrumentality of liquid manure. Indeed the poorer the soil, the more striking would be the result.

For poor, sandy soils, the system of liquid manuring cannot be too highly recommended, for, I believe, that all other plans of applying fertilizing materials to them, will be found far less efficacious in their results. If we examine into the chemical and physical characters of soils similar to those which abound in Flanders, we shall not be long in discovering the causes of the astonishing success which has crowned the system of liquid manuring in Belgium and other countries.

In order to render more intelligible the explanation of the causes of the highly beneficial effects which liquid manure produces under these circumstances, I may be allowed to introduce here the composition of two sandy soils, which I have lately examined.

Composition of two sandy soils from the neighbourhood of Cirencester.

	NO. I.	NO. II.
Organic matter and a little water of combination	5.36	4.80
Oxide of iron and alumina,	5.78	12.11
Carbonate of lime,	35	15
Potash, soda, and magnesia,	49	45
Phosphoric acid,	none	faint trace
Sulphuric acid,	trace	trace
Chloride,	trace	trace
Insoluble silicious matter (chiefly fine quartz sand with but little clay,)	88.12	82.41
	100.00	100.00

It will be observed that both soils abound in quartz-sand, and are deficient in clay and lime. No. I. especially is very sandy, and even poorer than No. II., for I could not detect in it any phosphoric acid, and found in it less clay than in No. II.

On land of that description, corn roots, or grass cannot possibly be grown with advantage without manure; for in these soils all the more

important mineral constituents, which are required for sustaining a healthy and luxuriant vegetation, are either altogether absent, or are greatly deficient. Thus, No. I. contains no appreciable quantity of phosphoric acid, and No. II. mere traces. Again, it will be noticed that lime, which in smaller or larger quantities is contained in every kind of agricultural produce, occurs very sparingly in these soils, and that the per centage of potash and soda in both is far from what it ought to be, in order to meet the wants of growing plants. Taking potash, soda, and magnesia together, there is not quite a half per cent in these soils, and probably the major part of this fractional percentage consists of magnesia. Sulphuric acid likewise is wanting in both soils. In short, both are poor soils that require to be heavily manured before they can be made to yield a respectable crop, and that soon return to their natural sterile state when the usual dressings of manure are withheld.

Hungry soils, of such and similar composition, are grateful for almost any kind of manure, for as they are greatly deficient in plant-food, manures that contain even small quantities of phosphoric acid or alkalis must produce a beneficial effect. The poorer the soil, the more striking will be the effect which the manure produces, and the more diluted may the latter be before it ceases to produce any visible effect.

It can be shown (and experience informs us) that liquid manure, in a concentrated state, would act injuriously upon the vegetation on most soils which are benefited by liquid manure; and that the more sterile and sandy the soil naturally is, the greater the necessity for diluting the manure.

Under ordinary circumstances, it is the soil that furnishes to plants a considerable proportion of the mineral matters, which are left behind on reducing them to ashes. As a rule, the manure, in addition to the nitrogenised substances and other organic constituents, is required to supply, in preference, those mineral matters, which, like phosphoric acid or potash, are generally sparingly distributed through the soil. The natural resources of mineral plant-food vary greatly in quantity and in quality in different soils. In most, the more common fertilizing materials, such as lime and magnesia, sulphuric acid, silica, and even potash, are found in such abundance, that we need not care to replace them in the measure in which they are carried off the land in the different crops of a rotation.

There are a few soils upon which we can continue to grow paying crops of roots, clover, or corn, without restoring in the shape of manure the more valuable minerals, such as phosphoric acid; but where it is yet necessary to replace the nitrogenised food of plants, which, it appears, is diminished in a high degree by the growth of white crops. Upon land rich in available mineral matters, purely nitrogenised or ammoniacal manure may be used with far more safety, (and in many instances with true and permanent economy,) than upon soils deficient in available mineral food. The injurious effects of an excess of ready-formed ammonia and nitrogenised matters readily furnishing ammonia on decomposition, show themselves no where plainer than upon poor sandy soils. Daily experience tells us to use ammoniacal manures but sparingly in such cases.—Now, liquid manure, we have seen, always con-

tains a considerable proportion of nitrogenised organic matters, as well as ready-formed ammonia; but it is deficient in phosphoric acid and other mineral matters, which, under ordinary circumstances, are furnished to the plant by the soil.—The liquid manure produced on a farm, when applied in a concentrated state, of course cannot penetrate the soil to any great depth, or, at any rate, cannot soak so deeply into the soil as it would had it been previously diluted with three or four times its bulk of water. There are many sandy soils, in which lime, magnesia, phosphoric acid, and other minerals occur but in very small quantities. If such soils are manured with a too concentrated description of liquid manure, there will not be a sufficient quantity of mineral food in the soil, and the manure to counterbalance the injurious effects which an over-dose of purely nitrogenised food is well known to produce. Grass land, under such circumstances, will produce abundant, but rank, innutritious, bad-keeping hay; wheat will give abundance of straw, but little and inferior corn; swedes, turnips, and other root-crops will make rapid progress, and then become attacked by disease.

For these reasons it is necessary to dilute liquid manure largely if we wish to put it on poor sandy soils. Diluted with much water it penetrates a larger mass of soil, and, so to speak, becomes more saturated with the animal fertilizing matters that are wanted by the plant, and are so sparingly distributed throughout the soil.

And this leads me to observe that liquid manure is particularly well adapted for porous sandy soils, because it penetrates them when properly diluted deeply and uniformly, which is a great advantage, since the porous nature of sand allows the roots of plants to penetrate the soil to a great depth, and in every direction in search of food.—In other words, sandy soils are excellent vehicles for holding a diluted liquid manure, in which the different constituents occur in an immediately available, or, so to say, cooked state.

The porous and often uniform physical character of such soils, moreover, causes great fluctuations in the amount of moisture, and in dry and warm weather, they dry to a considerable depth, leaving a porous and friable surface exposed to the action of the atmosphere.

[From the Southern Cultivator.]

PRUNING FRUIT TREES.

Pruning fruit trees is somewhat of a periodical disease, which manifests itself about this time of year. The Southern planter and farmer now gives his orchard a passing glance and notices his trees to be sadly out of order, as well as unproductive, and hence concludes they need pruning—a panacea for all their diseases. He seizes upon the first axe he can find, no matter whether dull or sharp, and falls to upon his refractory, sickly, and unproductive subjects; he cuts and slashes right and left, no matter to him how or what he cuts, provided the limbs come down with a crash. After going over his orchard in this way, he stops and take a general survey of its improved appearance to his eye and ideas (if one ever entered his head.) He sees his trees towering aloft like the sky-scraper of a man-of-war, and huge piles of limbs lying on the ground beneath, and with evident self-satisfaction fancies himself somewhat of

a hurricane. He probably never thought, while at work, what he was doing, whether acting rationally or as a lunatic; but were he to haul up to a block his horses, mules and cattle, and chop all their tails off close to their rumps and when remonstrated with, say, he was pruning them, we are of opinion a commission of lunacy would soon be sued out against him; yet there would be about the same amount of good sense in one case as the other.

On the one hand he would soon be without fruit and trees, for the scorching summer sun soon burns them to death; while the flies and other insects would soon reduce his horses and cattle to skin and bones, and finally to death.

We recently made a short trip through a portion of Middle Georgia, and saw numerous orchards of apple and peach trees, but amongst all, we never saw one tree properly trained or trimmed—all were trimmed up high, and from one-third to one-half of all the trees we saw, were dead on the southwest sides of their trunks, yet we never found one man who could tell the cause, and probably had never even thought of it.

The scalding of the trunks of fruit trees on their southwestern sides, by the rays of the sun falling on them during the long days of summer, kills and injures more of them than all other causes and diseases put together, and the owner alone is to blame for it, through his pruning operations.

Remonstrate with him—tell him his trees should have low heads, and rarely need any trimming—he will meet you with the question: How am I to plough under them and cultivate the ground? You have no business at all to plough under them, and expect a crop of something else, plough up to them until the limbs begin to interfere with you, and you are as near as you should go. The roots of a tree extend about as far as the limbs, and, as they take nourishment mostly from their ends, you have ploughed and stirred the earth to precisely the right point when you come to the limbs; nearer to the trunk than this is an injury, for you necessarily mangle and injure the roots.

With young and newly planted trees which have but small or no tops, it is necessary to shade artificially, by placing a clapboard beside them, securing it with a tie of some sort, or any other means which may suggest itself.

As soon as the tops are sufficiently grown to protect the trunks with their shade, which is the second or third year, all other means may be dispensed with. Some will say, I cannot make my trees branch out low down. To such we say, top them, and, our word for it, you will not have it to say again. The naked trunk of an apple tree should be about three feet high; that of a peach tree from one and a half to two feet high to the limbs, which latter should be shortened about one-half their growth annually, which will keep a new growth of fruit-bearing wood in the interior of the tree, instead of being alone at the ends of the limbs.

It is with raising fruit as with every other crop, if attended to and cultivated as is cotton or corn, our labor will be rewarded; but we have no more right to expect a crop of fruit from an old, worn out, uncultivated sedge field, than we would a crop of corn on the same land without ploughing or hoeing. "By the sweat of thy brow shalt thou eat thy daily bread," is the fiat of Almighty God,

and he who thinks he can escape it will soon find his mistake.

J. VAN BUREN.

Clarksville, Habersham Co., Ga., Feb. 1859.

CRANBERRY CULTURE.

The American Cranberry (*Oxycoccus Macrocarpus*) is so familiar to us all that a detailed description of the berry would be useless; but of the many thousands who enjoy this racy fruit, very few know whether it grows on trees, bushes, or vines; and fewer still have any idea of the extent to which it is cultivated in some sections of our country; of its increased consumption in the United States; nor of the quantities annually exported to England.

The market value of this berry ranges from three to six dollars per bushel, varying of course, as do all other fruits, with the supply and demand, but rarely even in the most productive seasons falling below three dollars.

The American Cranberry is divided by growers and dealers into three varieties—the Bell, the Bugle, and the Cherry.

Although the cranberry will grow on almost any soil where the water is not more than a foot from the surface, yet experience has proved that the soil best adapted to them is nothing more nor less than plain beach sand, entirely free from any matter, either animal or vegetable—in fact, this berry may be said to live entirely on air and water.

Peat is found to be well adapted to this berry, but requires some care in preparing, owing to its liability to break and crack in hot weather; this may be obviated, however, by taking off the turf and grass, leaving the surface exposed to the action of the weather for a year, after which it becomes light and porous, and fit for the reception of the vines.

The cultivation of this berry being as yet quite recent, there exists considerable difference of opinion as to the most suitable time and best methods of planting.

Sod planting was the plan adopted by the first cultivators of this vine, and consisted of simply removing sods of wild ground to ground prepared to receive them. Experience soon taught them however, that in removing a sod thus, they not only planted vines, but also a host of noxious weeds and grasses, which gave them much trouble to extirpate.

Planting separate vines has been found to be the most effectual plan, and although it consumes more time, and is perhaps attended with rather more expense than sod planting, yet from the absence of weeds and the fine chance for the vines to spread, the cultivator finds himself amply repaid for the increased outlay.

Cutting-planting has been adopted by some as the most economical plan; and as the plant sends out long runners, sometimes to the length of five or six feet, it is self-evident that the first cost of the cuttings must be small. The cutting should be about six or eight inches long, and should be planted by thrusting the middle into the earth with a dibble, permitting a few inches of each end projecting, so that when it takes root you have two plants instead of one.

Another plan of propagating by cuttings, is to cut the vines into pieces of about two inches in length, for which purpose a common haycutting

may be used, and sowing them broadcast on ground prepared for them, and then harrowing them in as you would wheat or rye. Or, and I think it preferable, planting them in drills at such distances as will permit cultivation with the plough for the first two years. These small cuttings will soon take root from the point where the root joins the stem, and will send out runners the second year after planting.

The distances of planting must be regulated by the nature of the soil; if liable to weeds you must give yourself room to work among the vines; but if you are planting on plain beach sand, the closer your plants are the better, for the great object in forming a cranberry yard is to have the entire surface covered by a thick mat of vines as soon as possible.

The time of planting generally adopted, is in the spring, as in this case the roots are not so liable to be thrown out by the winter frosts; say from the fifteenth of April to the first of June.

There seems to be many and adverse opinions as to the proper location of cranberry yards, but it seems to me the nearer we approach to the examples given us by Nature, the nearer will we be right.

Many efforts have been made to cultivate the cranberry economically on uplands, but so far as my observation extends, without success; for where there is an absence of a plentiful supply of water during the summer, the vines die.

Meadow lands, which are low and moist, free from stagnant water, and somewhat sheltered from storms, may be considered the best locations.

A position where the yard can be flooded in winter is very desirable, as the vines, when exposed to very severe weather, are liable to be winter killed down as low as the roots, which throws them back in bearing for a year; besides which it is sometimes desirable to flood them during the season to prevent the attack of the worm, which in some localities is quite destructive.

An acre of vines, properly cultivated and well *matted* will produce at least two hundred and fifty bushels of berries; in some instances a yield of four hundred bushels per acre has been obtained, but this is above the average, and may not be relied on.

Two hundred and fifty bushels of berries, at the lowest price of three dollars per bushel, gives us seven hundred and fifty dollars as the product of one acre, which I think will compare very favourably with even a California gold mine, and will I hope induce many of your intelligent readers to make a visit to New Jersey, where there are large tracts admirably suited for its cultivation, on which are now growing wild vines enough to stock a county.—*Germantown Telegraph*.

PRECOCITY OF THE SEASON—We learn from Mr. Butcher, the extensive fruit dealer and confectioner on Baltimore street, near our office, that on consulting his books, he finds that this year he received ripe strawberries from Augusta, Georgia, on the first of April, whilst last year the same fruit was received 22 days later. The point from which he receives the earliest fruit after that from Augusta, we learned, with some surprise, was Petersburg, Virginia, and not Norfolk in that State, as would be generally supposed.

PEARS.

BY R. BUCHANAN, OF CINCINNATI.

Twelve to sixteen years ago, I planted eighty standard trees, comprising sixty-seven varieties. Dwarf were then but little known in the West. The trees were planted twenty feet apart, on the highest and driest part of my orchard, and in sod, to avoid the disease called "fire blight;" as too rich a soil, and high cultivation, is said to expose the trees to that malady.

The growth was slow, but healthy; and with the exception of four trees, in a wet place, which died the sixth year from fire blight, all are now in a thriving condition. In replacing those that were killed, some loose stones were thrown into the holes, and a small under-drain made from each hole, which, from the fall of the ground, was easily done.

The new trees, thus planted, were very thrifty, and have never suffered from blight. Some varieties of the pear, on its own stock, come into bearing much earlier than others; and other kinds so late, that you almost despair of their bearing at all.

Among the first to yield fruit, is the Bartlett, Summer Doyenné, Louise Bonne De Jersey, Dearborn's Seedling, Madeleine and Belle-Lucative; and the last, Urbaniste, Vicar of Winkfield and Dix; medium, White Doyenné, Napoleon, Bloodgood, Seckel, Julienne, Washington, &c.

The test of experience enabled me to find out such as were best in quality, and the most profitable to cultivate for market; and I have, within the past few years, been covering with grafts of the better kinds those trees that bore inferior fruit; thus reducing the varieties from sixty-seven to thirty-one. It is better to cultivate twenty-five to thirty choice kinds, than a greater variety, and of these at least one-fourth should be Bartlett's; the most reliable pear we have.

Within the past eight years, I have been experimenting with Dwarf Pears, and have been so much pleased with them as to increase the number from a dozen, at first, to two hundred, planting a few every year. Of these I have about sixty varieties. They are planted around the garden borders, eight feet apart; the branches are shortened in, when too long, to give the tree a pyramidal shape. When planted, the trees are set about two inches below the union of the graft with the quince stock, so that the pear may in time throw out roots of its own; making a kind of semi-dwarf trees; which habit it will retain. This is preferable to depending on the quince root alone, as the tree is apt to break off at the junction of the graft and stock, if not planted deep enough.

When planting pear trees, either dwarfs or standards, I prefer to shorten the side branches and let the leading ones alone, unless the latter are very long; the object being to train to a handsome pyramidal form. Some of my dwarf trees, planted six years ago, are now twelve feet high.

The Dwarf Pear is especially valuable for producing fruit before the standards come into bearing; but whether they are profitable to cultivate for supplying the market, I am unable to say from my own knowledge; I am told they are, but shall test that myself. My main reliance is on the

standards, of which I have added some seventy trees to the original stock, making, in all, one hundred and fifty Standards and two hundred Dwarfs. This shows my faith in Pears.

It may be said, if all plant pears, we shall soon have an overstock. Has any one yet known the Cincinnati market to be overstocked with fruit? and can such a thing occur when we have so great facilities by river, canals and railroads, of sending it to other markets? My own sales, for some years past, have ranged from \$1.50 to \$7 per bushel for pears. Last year the average price was \$4, and some of my trees produced five to six bushels each. With me, thus far, the pear has been as reliable as the apple, and last year more so.

I can recommend the following list from my own knowledge, as best suited to this vicinity, both for Dwarfs and Standards. Other varieties are no doubt good, but these are the best that I have tested:

<i>Madeleine,</i>	<i>Louise Bonne De Jersey,</i>
<i>Dearborn's Seedling,</i>	<i>Golden Beurré de Bilboa,</i>
<i>Summer Doyenné</i>	<i>Urbaniste,</i>
<i>Bloodgood,</i>	<i>Beurré Diel,</i>
<i>Julienne,</i>	<i>St. Ghislain,</i>
<i>Oswego Beurré,</i>	<i>Tyson,</i>
<i>Belle-Lucrative,</i>	<i>Napoleon,</i>
<i>Bartlett,</i>	<i>Heathcote,</i>
<i>Seckel,</i>	<i>Andrews,</i>
<i>White Doyenné,</i>	<i>Stevens' Genesee,</i>
<i>Flemish Beauty,</i>	<i>Roztiezer,</i>
<i>Onondaga,</i>	<i>Glout Morceau.</i>
<i>Dix, (on the pear stock)</i>	<i>Picar of Winkfield,</i>
<i>Lawrence,</i>	<i>Jamiette,</i>
	<i>Beurré D'Arenberg.</i>

Were I confined to half the number, I should prefer those in *italics*.

The celebrated *Duchesse D'Angoulême* is not to be relied on in this climate, though some seasons it does well.

April 19, 1859.—Ohio Valley Farmer.

ROSES IN ALABAMA—MAGNOLIA GRANDIFLORA, &c.

In our Flower Gardens, I will only draw your attention to the *Tea, China, Bourbon and Noisette* Roses. What do you think of *Cloth of Gold* and *Solfaterre* climbing to the very top of the chimney of a two story building, the stem as thick as a man's arm? What of *Devontensis, Saffrano, Archduke Charles, Triomphe de Luxembourg*, six feet high, eighteen feet in circumference, with a stem three inches in diameter? and all on their roots. In spite of all the high praise of the *Manetti* for stock, I have thrown it over the fence many years ago, and will never take it back again. I prefer, with a few exceptions, to raise my roses on their own roots; but when I want stock I have one, which, at least in this latitude, is far superior to *Manetti*.

But let us leave the enclosed garden, and take a ramble through the woods!

Amongst the pure white flowers of *Anaryllis Atomasco*, and the *Azalea nudiflora*, of all colors and hues, except black and blue, and now in full bloom. We will wander in the shade of the majestic *Magnolia Grandiflora*, often a hundred feet high, with stems eighteen inches across, mingled with other beautiful evergreens, as *Olea Americana*, *Prunus Caroliniana*, *Ilex opaca*, often forty feet high, while *Kalmia latifolia*, *Illicium*, and

many other evergreen shrubs, are scattered all around. To relieve the dark, and glossy green color of all these beautiful evergreens, the *Halesia diptera* with its snow-white bells, is plentifully mixed in with them, while a *Cornus Florida* in full bloom, is still more embellished by the bright scarlet flowers of a *Lonicera sempervirens*, rambling up to its very top. To heighten this great enjoyment, *Pyrus coronaria* spreads its delightful fragrance, not inferior to that of a *Rosa Devontensis*, all over the woods; and the air whizzed softly, and fairy-like, through the twelve to fourteen inches long leaves of *Pinus Australis*, towering high over all other trees.

X. Y., in *Gardener's Monthly* for May.

THE NANTAHALEE APPLE.

I. L. Moultrie, Esq., writing from Union Springs, Alabama, to the Editors of the Southern Cultivator says: "Your correspondent, Windsor," wishes to know if any one can inform him whether the Yellow June Apple is of Southern origin. There is in this county, (Macon, Ala.) about four miles from Tuskegee, a tree bearing very fine Yellow June Apples. Said tree was found growing in an Indian's yard when this country was first settled by the whites; and from it I distributed cuttings somewhat extensively, a few years since. Dr. W. O. Baldwin, wrote to Mr. Van Buren, requesting him to name the Apple, and the latter gentleman called it "Nantahalee," an Indian word which, I believe, means "Maiden's Bosom."

In the periodical mentioned above, for May, we find the following lines upon this famous apple:

NANTAHALEE.

You've heard, I think, of the beautiful maid
Who died from Love's caresses,
Till her beautiful toes were turned to roots,
And both her shoulders to beautiful shoots,
And her beautiful cheeks to beautiful fruits,
And to blossoming spray, her tresses!

I've seen her, man! she's a'living yet
Up in a Cherokee valley!
She's an apple tree! and her name might be
In the soft musical Cherokee,
A long drawn—"Nantahalee!"
'Tis as sweet a word as you'll read or write;
Not quite as fair as the thing, yet quite
Sufficient to start an old Anchorite
Out of his ashes to bless and bite
The beautiful "Nantahalee!"

Torch Hill, Ga., April 1, 1859.

HOW THE BEAN CLIMBS THE POLE.

Prof. Brewer, of Washington College, Penn., communicates to *The American Journal of Science and Arts* the result of some experiments made by him on climbing vines—the hop, the Lima bean, and the morning glory. He finds that they will climb around a transparent glass pipe just as well as anything else, and that they are most ardent in their embraces when the pole is warmer than the surrounding air. During the day, the vine is attracted toward the light, but at night, and especially on cool nights, it turns to the pole. He learned, also, that the colour of the pole makes no difference; the caressing instinct of the vine has no prejudice against any shade. The element of constancy is very largely developed, the vine, after it has reached its pole, showing a much stronger tendency to wind around it than it did before to reach it.

AMERICAN FARMER.

Baltimore, June 1, 1859.

TERMS OF THE AMERICAN FARMER.

Per Annum, \$1 in advance—6 copies for \$5—13 copies for \$10—30 copies for \$20.

Notice.—Price, if not paid within 6 months, \$1.50 per year.

ADVERTISEMENTS.—For 1 square of 8 lines, for each insertion, \$1—1 square per annum, \$10—larger advertisements in proportion—for a page, \$100 per annum; a single insertion, \$15, and \$12 50 for each subsequent insertion, not exceeding five. Address,

N. B. WORTHINGTON,

Publisher of the "American Farmer,"

CARROLL HALL, S. E. cor. of Baltimore & Calvert sts., Baltimore.

THE AMERICAN FARMER.

A Monthly Magazine of Agriculture and Horticulture.

THE AMERICAN FARMER, the first number of which was issued in April, 1819, will commence on the 1st of July, the First Volume of a new series. In its first years *The Farmer* was the only Agricultural Journal in the United States, and it claims the credit of an important agency in opening the way to the great improvements in agriculture, which characterize the present times. Its aim now is to hold a place among many valued allies, as a useful, safe, and reliable guide to those who seek instruction, and to gather from all sources the best information to be obtained on the subjects of Agriculture, Horticulture, and Rural Improvement generally.

The Editors having been from their earliest years familiar with Southern farm life, and by their personal experience acquainted with the agricultural practice of the Middle and Southern States, are enabled to adapt *The Farmer* especially to the peculiar wants and capabilities of the Tobacco, Grain and Stock Growing Regions, while they hope to make it more acceptable even than it has heretofore been to the friends of agricultural improvement in all portions of the country.

The *Farmer* is printed in magazine form and style, each monthly number containing thirty-two pages of well printed matter, and a large advertising sheet giving the reader a view of the whole market of *Agricultural Machinery, Implements, Fertilizers, Seeds, Nurseries, and improved stock of every sort*, not only in Baltimore, but other important points. For Southern country custom it is unsurpassed as an advertising medium.

Price \$1 per annum, in advance. The paper will in all cases be stopped when the subscription expires, unless renewed. Address,

N. B. WORTHINGTON,
Carroll Hall, Baltimore.

[From the Baltimore "Daily Exchange."]

THE AMERICAN FARMER, Baltimore, May, 1859.
N. B. Worthington, proprietor.

This pioneer of American agricultural journals is one of the instances, among many, in which Baltimore enterprise took the lead in this country. The *Farmer* is not only the oldest agricultural paper in the United States, but so far as we know of the world, having reference of course to papers

making agriculture their specialty. What is still greater praise, it is one of the best. It has the advantage of being *honestly* edited—no small one, whether the matter be commercial, political, theological, or agricultural. There is no region in which humbugs more strenuously strive to enter than the farmer's domain—and none where dishonest connivance or assistance on the part of the press would be more injurious to the reader or more profitable to the editor. The *American Farmer* stands high above the suspicion alike of improper conduct and motive, and is as sound in morals as in science. We are glad to perceive that the next volume, commencing on the first of July, will not be sent to those who will not remit a dollar for it in advance.

PREMIUMS EXTRAORDINARY—\$700 IN PREMIUMS TO AGENTS.

Having given assurance during the past year to the readers of the AMERICAN FARMER of a safe, practical, reliable Magazine, fully alive to all that is valuable in the progress of the day, but not carried away with new theories and fancies, the Proprietor designs now, with a new volume, not only to take further steps for the improvement of the "Farmer," but to give especial attention to a very large increase of its subscription list.

Having abandoned the old system of crediting, and allowing every one to pay when he chose, or not to pay at all if he were dishonest, he desires, now and hereafter, to substitute the plan of having agents through the Middle and Southern States, to canvass actively every neighborhood; and to remit payments in advance, with the express understanding that the paper stops when the payment ceases.

For this purpose, by way of inducement to Post Masters, farmers' sons and others, to enter with some spirit into his views, he offers the extraordinary premiums mentioned below. He does not doubt that many thousand names may be easily added to his lists, and he earnestly invokes every friend of the *American Farmer*, either to take hold of the matter himself, or to direct to it the attention of some suitable person in his neighbourhood. There is not a village or small town in Maryland, Pennsylvania, Virginia or North Carolina, where an active agent may not hope to take the highest premium of two hundred dollars.

TERMS.

Single subscribers may remit at our risk, as heretofore, \$1 per annum, payable always in advance.

Six copies will be sent for \$5.

For ten or any larger number, the agent will receive a commission of 20 cents for each subscription of \$1. Or clubs of ten or more may be formed, at 80 cts. each.

PREMIUMS.

In place of the list heretofore offered in circulars with our May No. we now offer the following:

1st.—For the largest list, not less than two hundred, \$1 each, we offer E. Whitman & Co's Double Geared Horse Power, and their Premium Iron Cylinder Thresher with bands complete, a well tried, substantial and favourite machine, price.....\$200.00

2nd.—For the second largest list, not less than one hundred and thirty names at \$1 each, Stetson's Mower and Reaper. This is a new patent, of simple construction, and promises to be unsurpassed as a combined Reaper and Mower. It is warranted by the reliable house of Sinclair & Co., as a first class implement, and got up in the best manner—price.....\$130.00

3rd.—For the third largest list of not less than ninety names at \$1 each, Bickford & Huffman's famous Premium Iron Cylinder Grain Drill. This Drill is so well known and highly approved as to need no commendation—price.....\$90.00

4th.—For the fourth largest list of not less than fifty names at \$1 each, Wm. L. Boyer & Bro's Farm and Plantation Mill, which has received a large number of first premiums and is highly approved where it has been used—price.....\$50.00

5th.—For the fifth highest list of not less than thirty-four names at \$1 each, one of J. Montgomery's celebrated Rockaway Wheat Fans. This Fan has taken five silver medals, besides a large number of first premiums, and is certainly unsurpassed—price.....\$34.00

6th.—For the sixth highest list, not less than thirty names, one of Sinclair & Co's Straw Cutters and Corn Stalk and Sugar Cane Masticators, an excellent machine, that mashes the stalk between rollers armed with teeth, and then cuts it into short food for stock—price.....\$30.00

7th.—For the seventh highest list of not less than twenty-two names, one of E. Whitman & Co's United States Premium Sub-Soil Ploughs, very highly commended, worth \$10—one of E. Whitman & Co's admirable Wire Tooth Gleaners \$12.\$22.00

Those who take the above Premiums will be required to pay the full subscription price of \$1 for each subscriber. All others will be entitled to 20 per cent. commission in addition to the cash premiums they may take.

8th.—For the eighth largest list, a cash premium of.....\$20.00

9th.—For the ninth largest list, a cash premium of.....\$18.00

10th.—For the tenth largest list, a cash premium of.....\$17.00

11th.—For the eleventh largest list, a cash premium of.....\$16.00

12th.—For the twelfth largest list, a cash premium of.....\$14.00

13th.—For the thirteenth largest list, a cash premium of.....\$12.00

14th.—For the fourteenth largest list, a cash premium of.....\$10.00

15th.—For the fifteenth largest list, a cash premium of.....\$8.00

16th.—For the sixteenth largest list, a cash premium of.....\$6.00

17th.—For the seventeenth largest list, a cash premium of.....\$5.00

18th.—For the eighteenth largest list, a cash premium of.....\$4.00

19th.—For the nineteenth largest list, a cash premium of.....\$3.00

20th.—For the twentieth largest list, a cash premium of.....\$2.00

TO AGENTS.

☞ Bear in mind that the system we have now adopted of offering premiums, we design to continue from year to year. So that the same list that you get now, may be added to and used another year in competing for premiums thus offered.

☞ Let every subscriber understand that his subscription is for one year, and will stop there certainly, unless paid for again.

☞ It is very desirable that you remit promptly, whenever you have as many as five names, in order that by the first of July some idea may be formed of the number of copies we should print. An account will be opened with each agent, in which he will be carefully credited with the number of names sent with each remittance.

☞ In all cases the money must be sent with the names.

☞ Write distinctly, name, post office, county, and State of each subscriber. Your lists need not be confined to one post office.

☞ In order to give ample time for canvassing, we will extend the time for competing to the 30th of August, when the accounts will be closed, and the premiums awarded.

☞ The names of old as well as new subscribers may be put upon your lists.

☞ There is scarcely a village or small town in Maryland, Virginia, or North Carolina, or Pennsylvania, where an active agent may not hope to take the highest premium of \$200.


☞ Take notice, that every agent, whether he gets a premium or not, gets a commission which fully compensates for any trouble he may take.

☞ The Implements offered are all considered first class of their kind, and the sum attached to each, is its price in the Baltimore market. Should the one he gets not be wanted by a successful competitor it can no doubt be sold or exchanged for its value in other things.

OUR NEW VOLUME.—Our new volume beginning next month will be printed on entirely new type, the leaves cut and trimmed, and in altogether more presentable guise.

OUR BILLS.—For the last time we this month send to all subscribers a statement of their accounts. Among so many it is not to be expected but that some errors may occur. In some cases money has been received and the account could not be credited, because neither within nor without was any post mark or clue by which the name might be found on our books. In some cases money has been sent, and not even the writer's name signed to the letter. Clerical errors will also occur in making out the bills. In all such cases, we beg to be notified promptly, and correction will be made. We ask as a particular favour, that all who wish to renew their subscriptions, will do so promptly, as it will be matter of great convenience to get their names entered early on our lists. As to those in arrears, have we not said enough?

N. B. The number of copies to be printed of our July issue will be regulated in a measure by the number of names entered, by that time, on our books. It is, therefore, particularly desirable that all renewals be entered early.


 We have received during the past month an unusual number of kind and friendly letters from subscribers in arrears and others, who, without exception, approve and commend the system of cash payments in advance. They are generally from persons with whom we have no personal acquaintance, and whose letters illustrate the unpleasant predicament we are placed in when we have no means of drawing a line of distinction between them, and those who take advantage of their distance from us and the small amount of the debt, to cheat us of it altogether.

The following is from one of our very many unknown friends, whose good will we heartily reciprocate:

"Your May No. has made its appearance, with an omnious 'please take notice,' &c. I endorse it; you are perfectly right—'fiat justitia,' &c.

Please find within \$2 in gold, for which put me down 'paid,' as far as it pays for. You give your readers an excellent paper, fully worth its cost, and it is a burning shame that any of your patrons(!) refuse or neglect to pay for it."

JAPAN WHEAT.—We have received from Mr. Jones, of Baltimore Co., some stalks of the Japan Wheat, in head about the first of May. It is, unquestionably, a very early wheat. It is red and beardless, and Mr. Jones having cultivated it several years from a small quantity obtained at the Patent Office, thinks very well of it. We will give a further account of it hereafter.

 The article on Lawns and Parks from our correspondent "Cecil," needs no word from us to commend it to the careful perusal of our readers. It speaks for itself.

ACKNOWLEDGMENTS.

We have received from the Secretary of the Massachusetts Board of Agriculture, a copy of a Circular addressed by the Board to the several Agricultural Societies of that State, on the subject of the establishment of frequent Markets or Fairs for the sale of Agricultural Produce, and containing a Prize Essay on Market days and Fairs, by A. W. Dodge. From the Recording Secretary, Henry Clark, Esq., of Poultney, Vermont, we have received the Catalogue of Officers and List of Premiums of the Rutland Co. Agricultural Society, for 1859. From Messrs. Pomeroy & Marshall, of Mobile, Alabama, their Catalogue of Field Seeds, Fertilizers, &c. From Messrs. Hedges, Free & Co., of Cincinnati, Ohio, a small, stout 12 mo. pamphlet, entitled "Experiments with Sorghum Sugar Cane, including a Treatise on Sugar Making," &c. From some friend in Boston, Mass., a pamphlet entitled "Landscape Gardening and Thorough Drainage."

"ALL THE YEAR ROUND."—This is the title of the new Periodical to be conducted hereafter by Charles Dickens and the corps of writers who have heretofore contributed to and edited the old weekly "Household Words." With the latter, Mr. Dickens and the writers referred to have discontinued all connection. "All the Year Round" will appear weekly, and simultaneously in New York and in London. The publishers are J. M. Emerson & Co., 89 Park Row, New York. The work will be sold either in single numbers at 5 cents by agents, or at \$2.50 per annum per mail. It will also be issued in monthly parts. The first number has already appeared, and contains the commencement of a new story by Dickens, which will be continued during, at least, eight months of the year.

CRANBERRY CULTIVATION.

In the increased attention paid to the production of fruit, we hope the Cranberry, one of the most productive and profitable, will not be overlooked. On another page will be found an article on the subject from an Exchange.

The cranberry is grown best on marsh land, which can be flooded. It is quite as well adapted to this as to more northern latitudes. It bears enormous crops when soil and circumstances suit; is easily gathered, may be taken to market at leisure, bears transportation well, keeps a long time, and always finds ready sale at a good price.

We gather more or less cranberries every year, and they are much superior in quality to those brought to this market from the North. Last fall, all that we had were readily sold for \$4.50 per bushel. At such price and yielding from a hundred and fifty to two hundred bushels to the acre, no fruit is more worthy of the most careful cultivation.

THE GRAIN CROP.

The accounts are almost universal as to the luxuriant growth of the wheat crop. There are some accounts from the South, of Rust. A correspondent of Nansemond Co., who dates 9th of May, speaks of great uneasiness among his neighbours caused by the appearance of rust on the blade of the wheat. This rust upon the blade is not considered of itself a serious evil, but may be, as it proved last year, the precursor of the more destructive rust of the straw. The very luxuriance of the growth increases the danger to the crop, and with the prevalence of such weather as we have had in Maryland from the 15th to the 20th of May, no sanguine anticipation of a crop of wheat can be indulged in.—Considerable speculation in Breadstuffs is now going on, based upon a probable demand growing out of the European war. There is nothing to justify the expectation of any demand for breadstuffs abroad for the present. A long continuance of the war may create that demand and insure us a good price even for a full crop of wheat. The prices now are speculative, and those who have been able to hold on so long had better sell without delay.

A note from T. P. Burgwynn, Esq., of North Carolina, one of the largest wheat growers of our southern country, says :—

"The rust has made its appearance again in this State, and has done serious injury already to the wheat crops on my own plantation; it has not as yet spread to any extent, but the army worm is at work; between the two, I fear that the loss will be very serious; not knowing how to guard against these two great enemies of the wheat crop, I have reduced my crops one-half and seed now only 450 acres—some of my neighbours have abandoned it entirely.

Our cotemporary the *Germantown Telegraph* discourses thus in a late issue: "There is no epithet which we should like to use, severe enough to apply to the number of delinquent subscribers whose papers we have discontinued since the first of April. Suffice it to say, that we have been deliberately swindled by a considerable number of people, who claim a respectable position in society, and who could pay the amount of their subscriptions at any time, were they decent enough and honest enough to do so."

Some short time ago, we do not recollect the occasion—perhaps when some smart yankee had humbugged us with a *Muscat Catawba* advertisement, our neighbour of the *Telegraph* facetiously invited the said yankee to "look into his eye, and remark whether he saw anything green there?" The *Telegraph* was not to be imposed on; not he—and now behold! he has been humbugged, "sold," "swindled deliberately" by "respectable" citizens of the solid old state of Pennsylvania. Our cotemporary "doeth well to be angry."

But our object in noticing the matter is to ask can this be so? Is it not rash judgment? can it be, that any man who claims to be "respectable," is not "decent enough" or "honest enough" to pay a little newspaper bill? Is there a soul that is dwindled and shrunk to that degree of meanness that it refuses or fails to pay a small debt because it cannot be forced to be honest? It cannot be, Mr. Telegraph. We are interested in defending the reputation of honorable gentlemen, patrons of our own, whose reputation might pass under a shadow if we could admit such a conclusion. Having trusted to their honour heretofore, we shall believe still that every one will pay us promptly now, unless they are dead, or have run away, or are too desperately poor.

It is true we mean to discontinue from this time to send the *Farmer* to such as have not paid in advance; in the first place for the purpose of sifting out the black from the white on the list, and in the second, because printers, paper makers, butchers, bakers, tailors and shoe makers, &c., will not wait two, three, four or five years for the payment of their bills.

THE BEST BREED OF HOGS.

A farmer who communicates his views through a New-England journal, after going over all the choice breeds of hogs—the Berkshire, the Leicester, the Suffolk, the White Chester, says, the "White Chester are a large, deep sided, small boned breed—will weigh from 400 to 500 pounds at 12 months old, when properly fattened. I think them the most profitable swine for farmers. Of grades, there is the Leicester crossed with the Suffolk or Berkshire boar; the progeny will be finer in the bone and mature earlier than the Leicester, and will weigh heavier and produce more side pork than the Berkshire. For a pure breed, I consider the White Chester superior to all others; they combine, in a great degree, the large pork-producing qualities of the Leicester, with the fineness of bone and early maturing of the Suffolk and others."

We find the above in one of our exchanges. On the Hog question we do not recognize our New England friends as good authority. They spoil their hogs by making huge beasts of them, and then the Philanthropists get up a hue and cry against the animal, forbidding the people to eat his flesh under pain of swallowing horrible tape worms. The hog is a good creature and a decent, if you give him the opportunity of a comfortable and respectable mode of life. He is not filthy of his own accord. He is a hog truly, but not so much to blame for that, as people who make hogs of themselves. With a fair chance he is much the more respectable personage, and does not hold his head so high.

Our idea of a true hog is something that you may make *Bacon* of—*Maryland Hams*—*Virginia Hams*—*North Carolina Hams*; a *Southern Insti-*

tution that might persuade an abolitionist into good behavior. For this special purpose, the Chester will not do, the Leicester will not do, nor will any other do half so well as the breed slanderously denominated the "land-pike." A hale, hearty, healthy fellow who has roamed the forest for acorns and chestnuts, drunk pure water from the streams, and on a pinch jumped into the corn field for a week or so; one of those sagacious, enterprising, well-to-do hogs, that if not taken care of by his master, has enjoyed a large liberty of taking care of himself. Take him up at eighteen months old, and feed on corn and pure water till the middle of December, and you have the true, genuine bacon hog—a hog to make a Virginia ham of.

But is it a profitable hog to raise? My dear Yankee friend, the question is not profit but *bacon*. If you like fat pork and molasses, take your big four hundred pound hog, that has sweltered twelve months in a dirty sty—and beware of the *tape worm*. Take the profit if you will, but leave us our Ham.

But compromise is the order of the day, and something, we suppose, must be yielded to progress. How shall we get around the dollar and cent question, and still save our bacon? We say first, take a cross of the Chester upon a good country hog, to get earlier growth and size; upon this, cross with the Berkshire, and keep to that as the best bacon hog of the improved breeds.—Keep them in a grass lot and feed them some grain, from March till fattening time, and you will have at nine months the best substitute for the other. But with Berkshire, Suffolk, Chester, or what not, the farther you get away from the Virginia and Maryland breed, the more you will sigh for the good old days of "hog and hominy." These are what *Patuxent Planter* might call your "first family" hogs; hogs that landed probably with the settlers at Jamestown; that descended directly from the herd which roamed the forest of Cedric the Saxon, and grunted responsive to the horn, of Gurth his "born thrall."

THE BALTIMORE FARMER AND MECHANIC, is the title of a well printed sheet, published by E. Whitman & Co., chiefly for the purpose of advertising their large Agricultural establishment, but which they propose to make interesting to Farmers and Mechanics generally.

DOYENNE BOUSSOCK PEAR.—Of this fine variety of pear it is said by a writer in the *Gardener's Monthly*, that in Alabama it is the earliest pear of any size, and ripens there the first week in July. He calls it "a glorious variety."

✎ The suggestion contained in the letter of Prof. Hallowell, with reference to the arrangement of studies in the Agricultural Department of our College will be received with the consideration due to the experience, intelligence and estimable character of that gentleman.

With entire respect and deference, we take exception in behalf of the Boys to one thought, viz: that the pleasant occupation and labour of farm, garden, &c., may entirely take the place of football and other amusing games. So far as we may have any influence, we shall insist upon the boys playing, running, jumping, laughing, singing and "cutting up" generally, "within the limits of becoming mirth"—unless they themselves protest against it in a body. In that case we should admonish them seriously of the duty of devoting a part of their time to *diligent play*. A hearty player makes a good worker.

We understand and appreciate fully the idea of so introducing the students into the several horticultural and agricultural practices, as to make them not tasks and burdens, but matter of interest, pleasure and amusement. With the exercise of tact and judgment this may no doubt be done. But we are not willing to admit that there can be, or ought to be devised, any substitute for those hilarious, social games, which combine active out door exercise, with entire relaxation of mind, and light hearted joyousness and merriment.

Give daily work enough and play enough to gratify and subdue the exuberant life and spirits of the boy, so that he will seek his bed by ten o'clock for eight hours of undreaming sleep, and you not only lay the foundation of a vigorous, healthy constitution, a fit and helpful companion of a sound mind, but you throw around him the best guardianship against vice and immorality, which outward circumstances afford.

We would have not only Freshmen but Seniors, not only young but old boys, we mean big boys, to play. Indeed we wish we could persuade both men and women so far to forget themselves as to become sometimes boys and girls again, and throw off the everlasting bondage to work and toil and money-getting, to which this "universal yankee nation" has enslaved itself. We believe our health, our morals and our religion would profit by it.

DEVON HERD BOOK.—The third volume of the American edition of this work, edited by Sanford Howard, will shortly be issued by Brown, Taggard & Chase, of Boston, Mass.

NEW LATE CHERRY.—The *Revue Horticole* mentions a new seedling cherry called the *Acher Cherry*, found on the land of M. Acher, near Paris. It ripens the last of October. Colour dull brown, almost black.

WORK IN THE GARDEN.

JUNE.

The care of the vegetable garden at this season is interesting and important. The plants are all mere nurslings, and require the utmost attention to protect them against weeds and insects. Let all have a well worked, clean bed; exterminate insects, and water freely in dry weather. Be sure of an ample supply of water near at hand if you would have a flourishing garden.

Liquid Manure.—It is very useful to have an infusion, not so strong as to destroy the young plants, made by pouring water upon tobacco stalks, or stable manure, with elder leaves and soot thrown in. The elder leaf is very offensive to insects, and the liquid manure judiciously used will force on the young plants to get out of harm's way.

Clearing the ground of early crops.—The early crops of spinach, radish, lettuce, &c., may be cleared off to give way for late beets, cabbage, celery, &c. These may be planted likewise between the rows of early peas.

Cabbage, Cauliflower, Broccoli.—Take care that you provide abundant plants of these for the main crops. If necessary sow more seed, and force them with liquid manure.

Cucumbers.—Cucumbers may still be planted for table use, and in July for pickles.

Celery.—Celery may be planted for early use. It is too early for the main crop. Keep the plants well watered, and protect them from the sun with boards or bushes, until they are well set.

Cymbalins.—Cymbalins may be still planted.

Egg Plants.—If egg plants are not yet planted lose no time in setting them out.

Peas and Beans.—Plantings may be made of these for a succession of crops.

Roasting Ears.—Plant corn for late use.

Lima Beans.—Plant these still if you have not done so, or early plantings have failed; and attach those that begin to run to the poles.

Tomatoes.—Put out an extra number of plants, to give a winter's supply.

Peppers.—Plant out red peppers.

Onions.—If the tops of onions are very luxuriant, press the tops gently to one side and bend them down, to check the flow of sap, which will cause the bulbs to form. Draw no earth to the plant in working, and weed very carefully, that the bulbs be not disturbed.

Herbs.—As the herbs come into flower, cut and dry them in the shade. Plant out young plants for a fresh supply.

Trees newly planted.—Mulch all newly planted trees with coarse litter of any sort, and water occasionally in dry weather.

Fruits.—Thin out the fruit of all such kinds as are bearing too abundantly. The quality will be much improved. Shake the trees occasionally that the punctured fruit may fall off, and have it carefully picked up.

Grapes.—Stop the shoots before the bunches of grapes, and train wood for next year's bearing, pinching it off at proper length.

Strawberry Beds should be freely watered.

Melons—keep these clean and draw the earth up to the seed leaves in working.

FLORICULTURE—June, 1859.

In the early part of this month, the plants that during the winter occupied the hot-houses and green-houses, must be removed out of doors, and their places supplied with summer flowers. Place the removed plants so that the tallest plants shall be in the centre if in a single row, but if in two rows, with a walk between them, place the tallest plants in the line farthest from the walk, so that all the plants may be equally visible, receive an equal amount of light and air, and a rich, massive effect be produced by the foliage, and flowers, if any. Plunge the pots into sand or spent tan or saw dust, or, if these are not procurable, then into the ordinary soil of the garden. This will save some watering, and enable the plants to resist the scorching heats of summer.

Camellias should be placed in a cool and rather shady situation, but sheltered. When the buds are setting do not syringe quite so abundantly as previously whilst the plant was making its rapid growth. **Azaleas** should be constantly syringed and watered, and the shoots pinched to make them grow compact. **Achimenes** and **Pelargoniums** should be well and frequently watered. The latter being now in bloom, if shaded for some hours in the middle of the day, will continue in bloom a long time. **Fuchsias** may now be put into larger pots. **Monthly Carnations** may be put into the open ground and layered for an increase of stock. Seeds of **Cinerarias** and of **Chinese Primroses** may now be sown. **Roses** for winter blooming may now be put into larger pots and plunged in the open ground. **Dahlias** may be planted all this month. **Tulips**, **Hyacinths** and other bulbs should be taken up the last of this month. A liberal application of whale oil soap—two pounds to fourteen gallons of water—will be found a most excellent application to destroy the rose slug and other insects.

MANGO SQUASH.—A correspondent, in Alabama, of the *Gardener's Monthly*, says: "Another fine vegetable is the *Sicyos edulis*, or *Secinum edule*, commonly called Mango, or Mango Squash. It is a climber of rampant growth, belonging to the order of *Cucurbitaceae*. It does not bloom until late in August, but then it produces an abundance of its fruits, about four inches long, by two inches thick. There are two varieties—a green and a white; the latter is the finest. The fruit is as solid as a potato, having but one seed in the centre. It is of delicious flavour, and keeps all winter. It is used for cooking, like squashes, and the small ones for pickles. The root is perennial."

BARON HUMBOLDT, died last month.

THICK OR THIN SEEDING?

BY J. J. MECHI.

Fifteen years of experience are worth something, or at all events ought to be of some value. Does the quantity of seed sown regulate the quantity of corn to be produced? Most decidedly not. As a general rule, the larger quantity of seed sown produces the smallest result, because it implies a poor or ill-cultivated soil, having no power to compel the plant to tiller. It would be absurd to lay down an arbitrary rule of quantity for all sorts and climates; but we may take these general rules as a safe guide:

That the quantity of seed must be diminished in proportion as the natural or artificial fertility of the soil is increased.

That in such soils the sowing of too much seed produces a rank and close vegetation, prematurely developed, laid early, apt to be mildewed, and ruinously unproductive in quality and quantity.

The extreme illustration of this is afforded by the bunches grown from masses of seed dropped from the drill, or accumulated by mice.

That time is gained or early harvesting is promoted by two causes—a highly manured, drained and fertile soil, or by a large quantity of seed. In the latter case, prematurity is attained at a sacrifice of quantity. If I were asked whether I would sow thick to produce an early harvest, or whether I would sow thin and earlier, to produce the same result, I would most decidedly prefer the latter mode.

Experience has taught many farmers that if they will continue to sow the same quantity of seed as they used to do when they farmed less highly, they must sow later to avoid a prematurely laid crop.

If every farmer had tried (as I have done) for a series of years, on a moderate space, the comparative results of given quantities sown at stated periods, each man would have arrived at a suitable quantity adapted to his own climate, soil and circumstance.

My frequent intercourse with farmers from every country and every clime enables me to appreciate the enormous errors and discrepancies in regard to quantity of seed sown, and also convinces me of the want of uniform action and profitable knowledge amongst British agriculturists on this subject.

Several of my wheat fields this year are estimated at six to seven quarters per acre. I need hardly say that the straw is like reeds, and abundant in quantity. This is from a bushel of seed drilled per acre. Now, when some of my Welsh or foreign friends see this, they naturally suppose I have sown as much seed as they do, and wonder that my crop stands so stiff under such heavy ears. They seem quite amazed that one bushel of wheat or two bushels of oats should produce such results as six quarters of wheat and eleven quarters of oats per English acre.

I ought to be equally surprised when I hear of their sowing three bushels of wheat, and four to seven bushels of oats, to produce miserable results of two and-a-half to three quarters of wheat and five or six quarters of oats.

I have said that high manuring renders a small quantity of seed absolutely necessary. I ought to add, that every weed should be extirpated, and

the whole of the soil placed at the sole use of the growing crop.

But how stands the fact on the majority of farms in this kingdom? A fierce competition goes on between the thickly-sown grain crop and a powerful natural crop of hungry weeds, the latter too often consuming that which ought to have been the nutriment of the former, thereby reducing it in quantity and quality, to the serious injury of the farmer. 'This is no highly-coloured picture. If I travel by the flying train in the month of May, I can, even so, perceive this blot upon English farming in every direction; a painful reminder of agricultural neglect and miscalculation.

How few know the use of Garrett's horse hoe! For fifteen years my wheat and other crops have benefited by this. The farm labourers know well the value of clean hoeing, and can predict the failure or success of the crop accordingly.

Why a farmer should deem it necessary to hoe his turnips, and not his corn, is to me a mystery. The same principle applies equally to both. The amount abstracted annually from the farmers' pockets by the growth of weeds is something enormous in the aggregate.

The effect of extra manuring on the proportion of seed was strikingly exemplified in a distant wheat field of mine, sloping towards my bed room. On one portion of that field, forming a square and an oblong, my sheep had been folded twelve hours longer than on the rest of the field. In every stage of the growth of the corn, that extra folding was shown as distinctly as if coloured on a map. The crop was thicker and more early laid, and more frothy at harvest. Strictly speaking, three pecks, instead of one bushel of seed, would have been the proper quantity for that portion. I am still of the opinion that land can never be too rich for wheat, provided the quantity sown is adapted to the circumstances of the field.


I have formerly stated that on my land I have found that two bushels of seed wheat, as compared with one bushel, reduce the yield by a sum equal to the rent of the land.

In dealing with such an enormous area as the cereal crop of the United Kingdom, the waste of seed forms an aggregate item of national importance.

I never found any farmer who complained of my not having straw enough; on the contrary, thick sowers have admitted that the quantity was much larger than their own.

On light chalky soil, or limestone rock, especially at high elevations, as in Gloucestershire, I have known thick and early sowing practiced, because by covering the ground early, it protected the roots from frost. We know quite well that, whilst the leaf of wheat suffers little from frost, the plant when root frozen is destroyed. Under such circumstances it might be advantageous to thin out the wheat by hoeing in the spring. In light, loose sands the wheat root is apt to suffer unless sown early.—*Agricultural Gazette*.

PLENTY OF WINE.—The *Cincinnati Gazette* says that in Longworth's wine-house there is wine enough of last year's growth to fill ninety thousand bottles. The entire amount of wine on hand is estimated at upwards of 310,000 bottles.

 **DR. D. LARDNER**, died last month.

THE PRINCIPLES OF STOCK-BREEDING.

The principal reason why our farmers are under the necessity of repeatedly resorting to other countries to keep up the character of our flocks and herds, is the want of knowledge in regard to the principles of breeding. These principles are generally much better understood by the English and Scotch farmers. If our farmers will study the subject with equal attention, there is no reason why they should not attain equal results. At a late meeting of the Wenlock Farmer's Club, in Shropshire, a lecture was delivered by Mr. Evans, on the "Principles that should guide the Farmer in Breeding Stock," and we take from a report of it in the *Mark Lane Express* the following extracts, which we commend to the attention of all who are interested in this important subject:

It is a common but silly question, "Which breed of animals is the best for the farmer?" Some advocate short-horns, others advocate the long-horns, others the medium-horns, and others will have no horns at all. A particular kind is sometimes advocated under all circumstances to the exclusion of all others. Such persons remind me of the disputants about the true colour of the chameleon; all are right, and all are wrong, depending upon the point from which the object is examined. That breed of animals is the most profitable which is better adapted to that particular locality. One class do better on upland, others on lowland; some do better grassing, some do better housed. It also depends upon the demand of the neighbouring markets. In some parts cheese-making pays best; in other parts milk; in other parts meat, &c. In some districts it pays better to breed draught horses, in others hackneys and hunters, in others race horses, in others ponies, &c. What I wish to impress deeply on your minds is this: Every breed has its own peculiar conformation, and that conformation you will find, upon close investigation, to be peculiarly well adapted for a particular purpose; and when you adopt and cultivate a certain breed, you must always keep that purpose and that conformation steadily in view. If you lose the conformation, you will soon lose the purpose. For instance, we may divide cattle into two primary classes: 1, For fattening and arriving at early maturity; 2, For dairy purposes. For illustration, take two cows, one from each class, and you will find their shape or conformation diametrically opposed. Go to any herd you please, and you will find that just in proportion as the animals represent the shape or class 1, so are they disposed to fatten; and in the proportion they represent class 2 are they fit for dairy purposes. These classes may again each be divided into different divisions: A is better adapted for high land; B is better adapted for low land; C is better adapted for out-door living; D is better adapted for living in-doors, and so on. Each division has its own distinct peculiarity of external conformation.—That enables us to say at once which will do here, and which will do there. It is all-important that the breeder should be thoroughly acquainted with these "points," or proper shape of his stock.

I now merely draw your attention to the fact, that there is a peculiar shape adapted to perform any particular work, and it is essential that the

young man should make himself thoroughly acquainted with those, before he can expect to become a successful breeder. Starting then upon the great law of nature, that like produces like, and being prepared against variations by breeding from animals of the same sort, &c., breeding good stock becomes a simple matter of course. First ascertain what animals your land is best adapted for. Secondly, what have the readiest sale in your markets. Thirdly, having decided upon the purpose of your animal, study the shape and conformation calculated to attain your object in the most perfect manner; if you wish to breed fat stock, study the shape most disposed to lay on fat with the least food, and to arrive at early maturity; if you wish to breed milch cows, study the proper shapes for them; if you breed horses, study the proper shapes to perform their various duties. Fourthly, don't breed them from an animal, whether male or female, whose shape is not well adapted to perform the work it is intended for; let them be of the most perfect shape you can get of their kind. Fifthly, being acquainted with the laws of attavism, or breeding back, you will not be satisfied unless their ancestors were also of the same sort, and equally good; in fact, thorough-bred, and free from hereditary evils. Remember I do not confine the term thorough-bred to the race horse. It may be equally well applied to the cart horse, or hunter, or pony, or carriage horse, &c. It means those whose pedigree for a considerable time back were of the same class, and adapted for the same purpose as themselves. Unless you commence to establish a new breed, you should never breed from a half-bred animal. There is too much risk connected with it; it is based upon a wrong principle; you should carry the right principle out thoroughly. Though you may not have good distinct breeds of coach horses, hackneys, &c., now, you may soon have by following the directions I lay down. Unless breeders will reform, that useful animal the hackney (or roadster) will soon become extinct. The present system of breeding hunters and coach horses is a bad one; because by putting a race horse to a half-bred mare you may get a good hunter, and you often fail; you may get a hack, you may get a useless one. By putting a hunting horse to a Cleveland mare, you may get a carriage horse, or you may get a good for nothing. You have no law to depend upon.

By breeding exclusively from animals of the same shape, and, therefore, adapted for the same purpose, with careful attention to pedigree, you may easily establish a breed for any purpose whatever. At first, when originating the breed of hunters and carriage horses, of course we cannot avoid using crossed or half-bred animals, and such was the origin of the race horse. They will soon bear the name *thorough*; and when, in after generations, a progeny will show the original cross, by breeding back, it must not on any account be used for breeding purposes. I should recommend you to breed from your own stock exclusively, only as long as you cannot find a better male than your own, and your stock improves. I do not object to a cautious admixture of blood, but you must not cross the breed. I do not object crossing two families, but those families must be of the same breed. The word "breed" is very comprehensive, and has many different meanings. By those of the same breed I wish to be under-

stood those of the same shape and adapted to the same work with good pedigree. They may or may not be related. For example, you must not breed between a thorough-bred draft horse and a thorough-bred hunter or racer. You would get a good for nothing mongrel, too weak for draught, too ugly for harness, and not the shape for saddle; yet our fairs are over stocked with such animals, which proves that the present system of breeding is a wrong one. I can countenance no crossing of the breeds. Keep them distinct. Have thorough-bred draft horses, thorough-bred hackneys, thorough-bred hunters, as well as thorough-bred racers. Each has its own peculiar shape, suitable for its particular purpose. Why should they be mixed?—*Boston Cultivator*.

VARIETIES OF CATTLE FOOD.

If the Englishman of the present day is better fed than his ancestors, or than the native of any other country, the same improvement is also extended to his domestic stock: for the wisdom and economy of good nutritious food for laying on fat and flesh are now thoroughly understood. Our cattle and horse kind are not left, as in some countries, to collect a scanty provender from rank steppes, savannahs, or prairies; to munch upon the sprouts or twigs of trees, or to luxuriate upon rank sea-weed or fish upon the sea-coast. The best pastures of natural and artificial grasses are prepared for their special behoof, hay is laid up for their winter store, green crops and pulse are cultivated to a large extent, and the choicest oleaginous food, meals, and various delicacies to gladden their palates, are imported to a large extent, while the best of shelter is also provided for them. We boil and steam their vegetables and roots, and treat them as kindly as our own children. Chemistry is continually brought to bear upon the analysis of the substances to be tried as cattle-food, and those only selected for general adoption which are found to be most nutritious and fattening; while various experimentalists strive, from time to time, to make food compounds for extensive use, which shall combine fattening qualities with portability. As no other country pays so much attention to the improvement of breeding and fattening cattle for the market, so no country has experimentalized more on the nature and property of cattle food. Every useful substance is pressed into requisition, from the chaff or straw of the barn to the more expensive meals or prepared food.

When we look at the numbers and value of our cattle and sheep, the importance of making a due provision for their sustenance becomes evident.—It is for this purpose chiefly that the large quantity of 17,000,000 to 20,000,000 tons of turnips and mangel wurzel are annually grown in the kingdom for feeding our cattle and sheep in the winter. In Ireland 5,000,000 tons are annually grown; in Scotland 6,500,000 tons; and in England fully as much must be grown, although we have no specific returns. When we consider that a beast will eat a hundred-weight, and a sheep a quarter of a hundred-weight per day, a due provision of this esculent root is certainly very necessary.

But a number of other miscellaneous substances are pressed into service from cheapness, or as being readily at hand. Brewer's grains and malt comings are readily purchased by some, for feeding. Rye-meal, barley-meal, sago-flour, In-

dian corn-meal, rice-meal, anything which can be obtained cheaply and in quantity, comes in useful for fattening calves, &c. Our American brethren have been growing tomatoes, to feed their milch cows on; but we should suppose the crop would scarcely be a remunerative one, or indeed in any way so beneficial as our ordinary kinds of food. The sorgho stems would be far preferable, from their saccharine and fattening properties.

But as an element in the meat-manufacture, whether in the building up and development of the young and growing animal, the maintaining of the produce of the dairy-cow, or the final preparation of the animal for the butcher, linseed is of the highest importance to the agriculturist. Linseed-cakes have been shown by experiment to be far superior to Indian corn, pulse, or any description of food, for the production of fat.—English oil-cakes are of course preferable, from being fresher, and containing more oil; but the consumption of foreign oil-cake, as we have shown on former occasions, is largely extending, and bids fair still further to increase—our imports now are about 100,000 tons, nearly half coming from the United States, and consisting chiefly of cotton-seed cake. Although all the cake imported is not applied to feeding purposes, some of the rape cake being used for manure, still the bulk is for stock.

In Ohio and other leading American States, a large quantity of Indian-corn stalks are used for fodder, and the cob is ground up for feeding; while in the West Indies the expressed stalk of the sugar cane, and the tops which have been cut off, are highly relished by cattle.

An article of cattle food that has come largely into use of late years is the legume known as "locust" beans, being the food of the carob tree (*Ceratonia siliqua*), of which considerable quantities are now imported as cattle-food. They are grown and consumed to a large extent in Spain, Portugal, Crete, and the greater part of Southern Europe. In Sicily the amount gathered reaches 11,000 or 12,000 tons a year. They have long been used as food for cattle in Spain, and other quarters, and are even relished by the inhabitants when fresh and ripe, from the sweet pulp they contain. About 3,000 tons are grown in Portugal and 2,000 tons are shipped annually from Crete.

The mean of three analyses gives 65 per cent. of sugar and gum, and about 25 per cent. of nutritious vegetable matter. They are imported largely at Taganrog, and there is no doubt that their value as a feeding substance being appreciated, a very greatly increased supply could be obtained from several quarters in the Mediterranean.

How much of the science of farming and of all other arts depends upon the saving of material upon imitating that beautiful law which chemistry teaches us, that in Nature nothing is lost! This was well demonstrated by Mr. Simmonds in his recent lecture on the utilization of waste substances. We may add another instance pertinent to the subject under notice. In Edinburgh there is a distillery of great extent, where economy of heat and material is especially carried out. The "dreg," a waste product, was produced in such quantities that all the cows in Edinburgh could not consume it, and there remained an enormous surplus which had to be discharged into the water of Leith. This nuisance the modern Athenians

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protested against as an outrage on their sweet-smelling city. Something had to be done. Seed-cake had to be used by farmers, and it occurred to the proprietors that the "dreg," as well as oil refuse, might be pressed into cake. Machinery was accordingly fitted up, dreg-cake was prepared, and now the proprietors realize £60 a week from the waste product, which, although so much despised in Edinburgh, is now sent to the farmers in all parts of Scotland, to be returned in the form of fat cattle, and butter and cheese.

A French veterinary surgeon, of the Imperial Guard, has called the attention of the agricultural world to a biscuit fodder for cattle in times of scarcity occasioned by drought. It is composed of the usual provender—hay, grain, and pulse. To these may be added many others—such as the refuse of the wine-press, the pulp of various roots, the stalks of millet and maize, the leaves of the vine, the beet-root, and of certain trees, and the sweepings of the barn, and hay-loft, which contain a vast quantity of nutritious matter in the flowers and seeds of hay, which are generally thrown away. All these ingredients are bruised and chopped together; a mucilage of barley-flour is added, with a little salt; and the mixture is then left to itself for a few hours until a slight fermentation has set in, when it is put into square moulds, made into cakes, and left to dry in a current of warm air.—*London Farmer's Magazine.*

NEW PLAN OF GROWING POTATOES.

Messrs. Editors:—The past season I have discovered a new system of raising potatoes, (at least new to me,) and it, in every way, surpasses the one-eye system. I also think it will at once settle the question of opinion as regards small and large potatoes for planting—also whole or cut potatoes. This is no theoretical idea. It is gleaned from my practical experience, as I advance nothing that I do not first practice myself. When I first brought the one-eye system to notice, very few believed in it, and as to the after culture, it was also called "suicidal." However, after a trial, both the cutting and culture have proved all that I stated; and why not? I did it, and why not others? It was said that there was nothing to support the stem; that I then explained. This new system will fully prove that in my assertion I was correct. From the fact of the one-eye system and its management being cavilled at by very large and experienced potato growers, I thought I would try some other system to surpass it, and I think I have succeeded. The result may seem strange, but what I state can be attested to by a large circle of your readers, as I called their attention particularly to them during the growth, and wished them to be particularly noticed, as I should refer to them after, at the same time not giving them any information as to how they were raised, merely telling them that they were neither cut nor whole potatoes that were planted—cuttings nor layers. Not knowing what the result might be, I did not wish the process to be known.

When opening our potato pits in April, 1858, they had sprouted from a quarter to two inches in length. Before selling, the sprouts were rubbed off, by passing through the hands, and thrown away. I left mine on the ground, and in stripping the pits I threw some mold over them, merely to keep the sun from drying them. In

this way I left them for about a fortnight, in which time they had made nice fibrous roots, and produced stems—(the principal root elongated to a stem, and threw out leaves on the surface.)—I should call it all a root, but Dr. Lindley, our highest authority in Botany, says, no matter how much a branch may resemble a root, when over ground it is a branch, even though it should neither produce leaves or stems.

Some of those sprouts were not more than a quarter of an inch in length, and some were two inches; all of them grew the same throughout the season. One thing I particularly noticed in the growth of these sprouts was, that their over ground stems were much stronger than from whole or cut potatoes; particularly on their coming to the surface, the difference was as visible as between a plant that is grown in the back of a green-house, and one that is grown close to the glass. This fully satisfied me that that it made no difference whether the cut potato was large or small. The number of roots also attached to those sprouts were from time to time as numerous as they are to cut potatoes, being in fact a web of roots. This also proves that it is not, as some assert, from the tuber that the stem derives its nourishment—but, as I have at all times stated, it was from the soil and roots that the potato stems made their growth, which was my reason in recommending cut potatoes to be always set with the eyes at the bottom of the drill; having a greater number of roots, they, of course, could grow quicker. There was no care taken in removing the sprouts of the potatoes; they were merely passed through the hands and thrown one side as we proceeded in opening the pits.

I selected a piece of ground adjacent to where we had Prince Albert's, (the land being of the same quality,) so that the experiment should be equal. There was between a quarter and half an acre. I opened drills same as for sets, thirty inches apart, five to six inches deep, and dropped these sprouts, some that had leaves and some without, twelve inches apart, and covered with the plow. This proved that I was right in recommending covering the stems, which, when first brought to notice, it was asserted strongly by very large potato growers, that they would never see light again; but we are likely to err. All their subsequent treatment was precisely the same as I practice with the one-eye system.

Now for the result. In examining them at different periods during the season, they kept larger than the set potatoes, and they were not put out for three weeks after the others. However, this is easily accounted for, as of course after those sprouts were removed from the tuber and covered with mould, they commenced making roots. As to the number of tubers to each stem, they were nearly double what the cut potatoes were. This increase of yield is, of course, attributable to the greater number of roots, and they lay from the bottom of the drill to the surface. I will also state that our largest potatoes were of those that were sprout-planted. Further, that when we wanted to show or send away extra large potatoes, we took them from the sprout-planted. This is also known, as the persons to whom they were given, accompanied me to dig them; and they have gone round with me trying all the other potatoes, and acknowledged that those were the largest and a great many more of them to each stem. None

could conceive how they were grown; and all that could be seen was the original sprout, which turns almost as hard as locust, and from which no roots or stems grow but the one, no matter how long it may be; it looks as if it had been grafted, the growing stem to this hard sprout.

This experiment was not confined to one variety, as we had a great many sorts. We tried it on all of them with the same result. They flowered and had apples on same as sets. I cannot give the yield, as they were tried so much during the season, and so many taken off, that we could not ascertain the quantity.

The advantage of this system can be at once seen through. You can raise better potatoes without using your tubers, as of course every eye will produce a sprout, without injury to them, and some of them you can take two sets of sprouts off. If you have a large quantity, and save all your sprouts, you will have more than sufficient to plant. If you are not ready to plant them when taken off, you can lay them one side and throw a little earth over them, just sufficient to cover, when they will commence growing, which, of course, is equal to planting. You also save time in not having to cut your potatoes, which when there is a large quantity to be planted, is no inconsiderable item. It takes no more time to drop those in the drill than it does sets—takes no more covering, yields better, and the most material point of any is, your crop ripens a great deal sooner; and if early ripening will save you from the potato disease, (which I doubt,) you accomplish it.

For early use, a few tubers may be kept in a warm cellar, and as they sprout, place them in boxes, and as they advance in growth, (after leafing,) keep covering with mould, as I stated in a former article on forcing potatoes. I cut some potatoes some time since, removing sprouts and placing as above; they were in leaf and over ground before the cut sets had broken at the eye, and all placed in one temperature.

The above plan, of course, will not at present be practiced. Some may doubt its working, but any person giving the potato and its habits a few moments thought, will at once see that it is correct; and all I wonder at is, that it has not been practiced or brought to notice before this. All can try it on a small scale, and prove for themselves. In early planting, when the ground is wet and turns cakey, of course it will not do to bury those sprouts when in leaf, as it would bake and not let them through; in that case, let the leaves be on the surface. All that are skeptical, let them, for the present, keep the tops to the surface. After once trying it, they will adopt the whole of the system.

GERALD HOWATT.
Nanticoke, Luzerne Co., Penn.—Co. Gentleman.

[From the New-England Farmer.]

HOW I BUY, KEEP AND SELL OXEN.

MR. EDITOR:—I see by your paper that you publish the weight of some of our largest hogs, and likewise our big cattle; but you do not tell how it is done, whether on corn or pumpkins. I thought some of your readers might like to know the difference in price between working oxen and when they are fit to go to Brighton.

I will tell you the course pursued by me the past thirty years. I raised all my cows and buy all my oxen. I want them six years old and to

weigh thirty hundred when bought. I will give the price paid and received, and the number of years kept.

Cost.	Time kept	Sold at
\$72 00	6 years,	\$115 00
70 00	1 "	95 00
105 00	5 "	98 00
85 00	3 "	119 00
00 00	3 "	110 00
90 00	1 "	105 00
95 00	2 "	110 00
75 00	1 "	110 00
50 00	2 "	170 00
No. 10, \$150,		176 00
\$140 00	3 years,	160 00
160 00	1 "	175 00
150 00	2 "	200 00
170 00	2 "	170 00
\$1492 00		\$1906 00
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		\$414 00

During that time the oxen have been the only team for farm work. I keep no horse. The following is the manner I feed: The latter part of summer they have green cornfodder. During the winter a bushel of turnips once or twice a week, according to the quantity raised. From the 1st of March, meal ground from corn and cobs, two bushels of cobs and one bushel of corn on the cobs, well seasoned with oats. Of this mixture they have a peck each day.

No. 10 I kept only twelve weeks and the pair gained 50 pounds per week on two bushels of turnips and one-half bushel of meal a day. They were not worked. I do not feed any meal without mixing with cut hay, roots and chaff, and should think it up-hill work to feed without roots, any way.—My cows are fed with mangel wurtzels throughout the winter and spring, to which is added a little meal.

I send you some samples of Merino wool. My sheep, twenty years ago, did not shear four lbs. a head, with good care and no roots. My last sale of twelve hundred pounds—and there were no wether's fleeces—averaged 5.60 lbs.

GEO. DEWEY, Hanover, N. H., April 15, 1859.

ERADICATION OF STUMPS.

Where it is necessary to remove large stumps, under circumstances which render it impracticable to avail one's self of the assistance of a "stump machine," the work may be successfully accomplished by burning. This is done by digging under them, filling the cavity with combustible materials, and covering the stump, after firing the materials, with turf, in the same manner that coal-kilns are covered. The fire will in a short time effect the entire destruction of the stumps—even the long lateral roots—unless the soil is very humid, in which case the burning should be undertaken during the dry weather of summer. If the dirt is excavated a few weeks before the burning is undertaken, the operation will be more speedily effected. The ashes produced by the combustion will afford an excellent stimulus for the soil, and should be carefully applied as soon as the operation is completed. But in all cases where eradication by pulling is practicable, the stump machine should be used.

Germantown Telegraph.

JOHN HAMILL.

PROFITS OF THE HONEY BEE.

Having long studied the most efficient means of increasing and saving our bees, of keeping out the moth, and of removing a share of the honey in frames, without disturbing its legitimate owners; and having succeeded beyond my expectations, in these necessary objects, I am anxious that others should be put in possession of my method, and its results; for no branch of rural economy yields so great a return of actual profit, and of rational amusement, as the cultivation of bees. How surprising, then, that so little is done towards its improvement. There is an unwillingness in many of our farmers, to step out of the track they have so long followed. They say bees now require too much trouble; if they could be kept as easily, and do as well in their old sycamore gum, or box hive, as they were wont in the early settling of the country, there would be some satisfaction in keeping them. Yet these very men, who look on bee-keeping, the planting and cultivating of orchards and the care of poultry as hard and troublesome work, will toil all summer without a complaint, to raise a crop of corn, which will yield them a comparatively trifling remuneration. They acknowledge stock-raising to be the most profitable branch of Agriculture, and envy those who have the means of going into it. Yet here is a stock for which they have unlimited right of pasturage, that they may turn out to range at will, without danger of their being taken up as strays, or complained of as breach, and which requires no exorbitant outlay of capital to commence the business, and certainly is sufficiently neglected to leave room for competition. There is more to be feared in the raising of Durhams and Suffolks. In short, nothing is wanting but pasture, good hives, cleanliness and attention, to insure a rich reward to those who engage in the pursuit.

I will relate an anecdote of a good old bishop. In paying his annual visit to his clergy, he was very much afflicted by the representations they made of their extreme poverty, and which the appearance of their houses and families corroborated. Whilst he was deploring the state of things which had reduced them to this sad condition, he arrived at the house of a curate, who, living among a poorer set of parishioners than any he had yet visited, would, he feared, be in a still more woeful plight than the others. Contrary, however, to his expectations, he found appearances very much improved. Every thing about the house wore the aspect of comfort and plenty. The good bishop was amazed. "How is this, my friend?" said he, "you are the first man that I have met, with a cheerful face, and a plentiful board. Have you any income independent of your cure?" "Yes, sir," said the clergyman, "I have; my family would starve on the pittance I received from the poor people I instruct. Come with me into the garden, and I will show you the stock that yields me an excellent interest." On going to the garden, he showed the bishop a range of bee-hives. "There is the bank from which I draw an annual dividend; and it never stops payment."—Ever after that memorable visit, when any of his clergymen complained to the bishop of poverty, he would say to them "Keep bees! keep bees!" and I shall bid my readers adieu, with the same advice. EDWARD TOWNLEY,

Mt. Auburn, Cincinnati, Ohio.
Ohio Farmer.

THE MARKET FOR AGRICULTURAL PRODUCTS.

Few nations have ever possessed such vast resources for material development and growth, as the United States have in their agricultural lands. The great fertility of these lands, the facilities for opening an easy communication with the seaboard, and the seemingly boundless limits to which their productive powers can be carried, all combine to render them one of the chief elements of our national wealth, and of individual prosperity. Like every other great element of power and wealth, however, they bring temptation as well as benefit—temptation to misuse the bounty of Providence, to neglect prudent precaution for the future, and to presume too far upon the strength of our advantages. To these temptations the United States have been far from insensible. We need not argue that it is, more than anything else, the vast extent of arable land in reserve, to be had almost for the asking, which encourages that wasteful system of cultivation, under which some of our older States see their lands impoverished, and which tends to hurry the settler on towards the far West, long before the lands which he abandons should have ceased to attract.

It is not this particular temptation, to waste our resources by thriftless cultivation, to which we wish to call your attention at present, but rather the temptation to neglect the ordinary laws of political economy, secure in the ability of our vast agricultural products to rescue us from the consequences of our own folly. Our whole system of extravagant importation seems to be based on an expectation, that the crops will pay for what we buy. Since the first of January, we have imported at a single port over seventy-four million dollars worth of foreign goods, and during the last week the imports of silks, fancy goods, and mere articles of luxury at that port, amounted to nearly \$800,000. Of course the general system, upon which our revenue laws are framed, contemplates payment for all these purchases at some time and in some manner, for to assume the contrary would be to say that the general government intentionally encourages fraudulent over-trading. But there is no way to settle the balance which accumulates against us, except by agricultural exports, and it is upon these that we notoriously rely; with what success, the experience of the last year or two sufficiently shows.

Of our entire agricultural export, from one-half to two-thirds consists of cotton, of which we have, not a monopoly, but a present control, which makes our position apparently secure and renders the market certain for the present. Even in this case, however, as we have lately seen, there is much which advises increased caution and less dependence upon the foreign market. As to our remaining agricultural products, however, especially as to cereals, upon which we rely so extensively in all our calculations, we are subject to competition such as limits the market for our products to a very great extent. Instead of the United States being a granary for Europe, we simply stand in a position where we can sell a certain surplus, if we have it, to Europe, if she wants it. How otherwise shall we explain the singular fluctuations in the amount of our exports of vegetable food, under the pressure of a heavy foreign debt? What other interpretation shall

we place on the fact that Russia, Turkey, France and Germany, each sold more grain to England last year than we did? With all our boasting, we have only a fourth or fifth rate place in the principal grain market of the world.

We need not enlarge upon the lesson which is derived from these considerations. With encouraging reports as to the coming crop, like those which now come in from all quarters, or with the rich harvest spread before us it may be difficult to conceive how we can fail to command the markets of the world, but the cold fact dissipates all such dreams. It is easy to build up a revenue system upon the theory of international exchange of products, but experience as well as reason shows that, for us at least, the opportunity for such an exchange is limited by natural causes, in spite of our boundless productive resources, and that we must beware of presuming too far upon the hope of finding a foreign market for the golden sheaves of the west.—*Boston Advertiser.*

BAREFOOTED NOTES ON SOUTHERN AGRICULTURE.

We have shown that the great deficiency in the planting system results from the small number of domestic animals kept upon the plantations.—While the mules to draw the ploughs are raised in Kentucky, the pork to fill the meat-house in Ohio, the wool to clothe the slaves grown and manufactured in Yankee-land, there certainly can be no elements of improvement ready to the hand of the planter. It is easy to exhaust the fertility of the soil, but restoration is another task, and one more difficult to achieve. Fertility, which is purchased at a dear rate, by the application of commercial manures, if persisted in for a series of years, becomes a self-devouring investment, which swells the expenditure column so as to absolutely startle those who indulge in it. We are not opposed to the use of guanoes, and the various compounded phosphatic manures, but all consumers should qualify their use of these fertilizing matters by a firm resolve to constitute them the basis of such over-production of cereal and forage crops, as will enable them to liberally feed a sufficient amount of stock to furnish compost and manure enough to restore and keep in good heart their tilled fields, without further purchases from abroad. This is the true mission of guano. It is, and should always be, simply the planter's credit, and he should pay up and become independent, as soon as he has the means of independence in his own barn-yard.

Stocks of cattle, swine, and sheep, as far as fertility to the soil is concerned, are self-sustaining. When we feed fifty hogs, and prepare them for slaughter, we invariably make them pay, in good manure, half the cost of fattening, which they readily do, when furnished with materials with which to incorporate their rich cereal-fed droppings. This is most easily done, and the hog-pen manure, in our hot climate, is not liable to fire the crops; and from its decomposing slowly, it is well fitted for the production of cotton and the grasses. We find that cattle properly fed and housed, add vastly to the fertilizing elements of the plantation, as they rapidly consume and convert all the roughness—such as hay, shucks, straw, and dried peavines—into the best of compost. Sheep, which are now so much neglected in the South, might be made to perform a great change in our rural

economy. They live and thrive upon short pasture—feed upon almost every vegetable product that springs from the earth—and, from the richness of their droppings, rapidly renovate worn-out and failing pastures. It is out of the question for planters to artificially manure the old pastures, but sheep will effect this naturally, by the even distribution of their excrements over the soil; and that, too, in a state of division by which it is preserved from the waste of exposure. It is a true saying, that "Sheep have golden feet." Rich grasses spring up in their tracts; useless weeds are eradicated by them, and the colossal ox and lordly horse, succeed them in their tenancy of the improved pastures. Where they are kept and cared for, these are incontrovertible facts. We have found the Winter keeping of sheep an easy matter—a lot of common hay, turnips, and a few bushels cotton-seed, with the browse of an old pine field, keep ours fat and thriving. Two pounds of hay, one-half pint of cotton-seed, eight pounds of roots, either of these is sufficient for a sheep per day. Their manure is richer than that of any other grazing animal. Sprengel said, that the manure of a thousand sheep, during twenty-four hours, was sufficient to put an acre of poor land in the best condition. Prof. Johnston, has verified this startling statement, in an article on the comparative value of manures—that sheep-droppings were as 12 to 7, compared with the droppings of cows, or nearly one-half more. As many sheep, therefore, as the plantation would sustain, should be kept, as they interfere with no other stock.—They would elaborate a supply of guano far better, cheaper, and more lasting, than the dust of arid Chinchas, brought to us at such exorbitant rates. The wool and flesh would come in with saving clauses, in our domestic economy.

The United States now manufacture 40,000,000 lbs. of wool; and, to supply this, have only 15,000,000 sheep. England alone, in her small domain of dear land, has 44,000,000 sheep. There can be no reason why, with the advantages of cheap land, wide range, and a more congenial climate, we should not be able to produce at least the wool consumed by us. In doing this, we would add to the fertility of the soil, and vastly to the amount of animal food for our negroes, in the shape of fat, palatable and healthy mutton.

Are not these things worth an effort on behalf of the planters of the South? Should it not be their pride to produce good wool enough to clothe their slaves in other and better fabrics than the miserable dog-tailed kerseys which meet us everywhere, at 25 cents a yard? Yes, to produce more—enough to fill stout ships for other lands, and thus add and open other avenues of wealth to the energy of our people. Everything which adds a single comfort to a people, is worthy of their solicitude. Life, at best, is made up of little things, which are most unobserved. Whilst great conflicts shake the rulers and agitate nations, the every-day occurrences of domestic routine "pursue the even tenor of their way"—and so may it ever be, as long as the bright lamp of energy and enterprise irradiates this scene of chequered change, upon which restless mortality is working out its destiny.—*Farmer and Planter.*

KANAWHA SALT.—The Inspector's return of Salt, made at the Kanawha, Va., Salines, for the quarter ending April 1st, shows that 88,963 bushels were made.

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LAND SALES.

MARYLAND.

Alleghany Co.—J. H. Gordon, Esq., Trustee, sold the farm of David Beall, on Eviitt's Creek, 230 a., to Mr. H. Hardman, for \$3,350. W. W. McKaig, Esq., Trustee, sold the Creek Farm, on Town Creek, 400 a., to J. C. Mitchell, for \$870.00. *Baltimore Co.*—At public sale, a tract of land of 33 a. and 33 perches, part of a tract known as "Ridgely's Whim," 2½ miles north of the city. Purchased by H. Mankin, Esq., for \$100 per acre. At public sale, 7 a., 2 r. and 33 p. on the Reisterstown turnpike road, near city limits. Purchased by D. Radcliffe, at \$265 per a. Also, at same sale, by the Trustee, about 21 a. near the above and Pimlico road, at \$150 per a. to S. Phelps. Also, at same time, by the same, about 25 acres adjoining the last, at \$150 per a., to I. M. Parr, and 7 a. and 28 perches to C. Harvey, at \$135 per a.—The whole forming part of the estate of the late Adam Welsh. *Cecil Co.*—Sixty-two a. of land within two miles of Elkton, known as the Austin property, for \$1,025. B. C. Pearce, purchaser. J. W. Maxwell, Esq., Trustee, sold the farm of E. P. Howard, 83 a., in the Sixth District, for \$2,300. R. McMasters, purchaser. W. Alexander has sold his farm near Brick Hill, 145 a., to S. Rogers, of Pa., for \$80 per a. *Frederick Co.*—One hundred acres of "Prospect Hill," belonging to the estate of the late C. Smith, and lying about one mile south-west of Frederick, was sold at private sale to Mr. J. Hagan, of the 'Mountain House,' at \$85 per a. The residue, 183 a., at public sale, at \$85.65, to Mr. G. W. Smith. *Washington Co.*—P. Hoffman, Trustee, for estate of M. Hoffman, deceased, sold a tract of 13 a. with improvements, near Smithsburg, to G. Punt, for \$330. A tract of 10 a. unimproved, and adjoining lands of S. E. Schindel and others, to Mr. A. Colliflower, for \$140; and also a tract embracing same number of acres, and in same neighbourhood, to Mr. G. Winters, for \$6.88 per acre.

VIRGINIA.


Mecklenburg Co.—The Valley Garden Estate of Capt. F. J. Jeffress, to E. A. Rawlins, at \$31 per a. The land of H. E. Coleman, has been bought for \$40,000, by M. Alexander, Sr.

PENNSYLVANIA.

Bucks Co.—D. W. Kelly, of Morrisville, has sold his farm on Biddle's Island, in the Delaware, 200 a., to J. H. Morris and J. Reeder, for \$20,000.—A farm of 67 a. in Bristol borough, belonging to the Mage estate, and generally known as the Poor House farm, was sold at the Philadelphia Exchange for \$167.50 per a.

SHERIFF'S SALES.

The following sales were made by Sheriff Ely: The farm and residence of Dr. J. H. Schenck, in Bensalem, 64½ a., handsomely located, to C. N. Taylor, for \$3,200, subject to liens amounting to about \$13,500—making in all \$16,700, which is regarded as a low figure for a property so eligibly situated. A tract of land in Bristol borough, belonging to William B. Jones, containing 42 a., to M. H. Jones, agent, for \$1,300.

 We have received a supply of *Downing's Landscape Gardening* and *J. J. Thomas' Fruit Cultivator*.

THE YELLOW WILLOW FOR HEDGES.

EDS. PRAIRIE FARMER:—Your inquiry in relation to the Yellow Willow has been examined, and I know not that I can say much more than I have said in the *Ploughman*.

This willow is very common in this part of the country, and is often used on the sides of roads for a hedge. The Boston Water Company set a row of these willows by the side of their lake but a very few years ago, and now it makes a very strong hedge—enough to turn any cattle. It is cropped four feet high, and is eighteen to twenty inches broad on the top.

I am cropping my own this year and have no doubt of its making a good fence in four years from the time of setting. Mine are set beside a shallow ditch in meadow ground, where willows always grow faster than on dry upland.

But I cannot doubt that they will flourish on most of your prairie plains, and were I an owner there, I would have willow fences in every direction. I have some of the *Osage orange* in my garden, but it does not grow. I would give more for one willow stick that had been out two weeks than for twenty *Osage orange* plants for a fence.

You ask what I mean by *spreading*. I mean that if you crop down the tops, you may have a wide and strong fence. If you let the shoots run up they will run high and not spread farther than oaks or birches.

Willows are set at much less cost than any tree or shrub, as nothing more is required than to make a small hole with an iron bar, and crowd one of the cuttings into it. The cuttings may be two inches in diameter and one or two feet long. Push it into the earth till one inch appears above ground, and let the shoots be kept away from cattle till you wish the cattle to trim them. This they will do when your fence has become strong without breaking down your hedge.

Cuttings are procured in winter from old trees, and are often kept for weeks in piles before setting. I think they may be cut any time in the winter, and kept exposed to the weather without injury. Cuttings less than an inch in diameter may be used. They may be carried to Chicago without injury.

In a dry soil I should stick them deeper than in moist—say two feet instead of one. A man will set one hundred willow sticks as soon as he will set five trees. One foot is space enough between the cuttings. Yours, &c. WM. BUCKMINSTER.

Boston, April 23d, 1859. *Prairie Farmer*.

IMPORTED MESSENGER AND HIS DESCENDANTS.

A gentleman, fully competent in the undertaking, is preparing a concise description and history of Messenger and his immediate descendants, for publication in the *American Stock Journal*. In order to render this as full and complete as possible, all persons having any knowledge of these horses, are requested to aid in the matter, by communicating such facts as they may deem of interest. Information is particularly desired in relation to *Mambrino*, *Chancellor*, *Whynot*, *Hamiltonian* (Gen. Coles), *Plato*, *Tippo Sait*, *Financier*, *Engineer*, *Ogden's Messenger*, *Bush Messenger*, and others of which any person may have definite knowledge. Like intelligence is desired concerning any mares by imported Messenger, and particularly as to the dam of *Young Bashaw* (sire of *Andrew Jackson*), the grand dam of *Andrew Jack-*

son, the dam of *Columbus*, and of all mares by imported Messenger which are in the pedigrees of noted trotters.

Communications should be sent as soon as practicable, and addressed to *American Stock Journal*, No. 140 Fulton St., New York.

FRUITS INCREASED IN SIZE BY THE USE OF COPPERAS.

M. Dubreuil, a celebrated European Horticulturist, says that it has been proven—"that melons and various species of fruit trees, the green parts of which had been watered on several occasions with a weak solution of sulphate of iron, yielded much larger fruits than those not so treated." He adds: "One of my pupils repeated the same experiments in 1854 and 1855 on pear trees. He gave the first watering as soon as the fruits were fairly set, in the end of June. He repeated the moistening every fortnight, in the evening, in order to prevent evaporation, and that absorption might be completely effected during the night.—The solution was at the rate of 26 grains to a quart for the first three, and 35 grains per quart for the two last waterings. He sent us, in the end of February, from a tree thus treated, an Easter Beurré, so large that it could scarcely be recognized. He obtained like results the following season.

But we doubt whether the results would not be still more successful if the fruits alone were moistened with the solution; for then they only would experience the stimulation of their absorptive powers, and would thus draw to themselves a much greater quantity of sap, inasmuch as the absorption by the leaves would be much less intense. Experiments should therefore be made with regard to this point."—*Translation in Hovey's Magazine.*

THE TRUE WAY TO LIVE.

The true way to live, says the prudent economist, is to pay as we go; and this rule is of thousand fold application. If we wish to realize our existence, we must pay as we go, not only our debts to the body, but what we owe to our higher, purer, better and more ideal nature, or we accumulate a heavy debt, that drags us down in after life. Some people form a notion that they can devote five, ten, fifteen, or twenty years to the accumulation of means to purchase enjoyment; and can then sit down comfortably, and enjoy it. But the order of nature is entirely averse to any such investment of time; she permits nothing of the sort. Pay as you go, says Nature; clear up accounts every day, with your good genius, and cheerfully subscribe something to your ideal life, to your taste for the beautiful, to your domestic happiness; or when the ten years are past, you may find yourself with a large account at the bank, but with very little capacity to enjoy anything that your money can purchase.

And it is not for ourselves alone, but for the sake of our children, that we should love to build our homes, whether they be villas, cottages or log-houses, beautifully and well. Men and women can go abroad and take their pleasure elsewhere; they can gratify their desire for variety and excitement in a hundred different ways, but the young people are mostly at home. It is their store-house for amusement, their opportunity for

relaxation, their main resource; and thus they are exposed to its influence for good or evil, ceaselessly; their pliable, susceptible minds take in its whole expression with the fullest possible force, and with unerring accuracy. They soon learn thoroughly to enjoy every possibility of enjoyment it possesses; and their unspoiled instincts for the good and true, are perpetually seeking in it for a gratification of their nascent perceptions of the beautiful. It is only by degrees that the young, hungry soul, born and bred in a hard, lovely home, accepts the coarse fate to which, not the poverty, but the indifference of parents condemns it. It is many, many years before the irrepressible longing becomes utterly hopeless.—Perhaps it is never crushed out entirely, but it is so stupefied by slow degrees, into despairing stagnation, if a perpetually recurring blank surround it, that it often seems to die, and to make no sign. The meagre, joyless, torpid home atmosphere in which it is forced to vegetate, absolutely starves it out; and thus the good intentions that the all-wise Creator had in view, when instilling a desire for the beautiful into the infant, is painfully frustrated. It is frequently from this cause, and from this alone, that an impulsive, high spirited, light-hearted boy, will dwindle by degrees, into a sharp, shrewd, narrow minded and selfish youth; from thence, again, into a prudent, hard and horny manhood, and at last into a covetous, unloving and unloved old age. The single explanation is all-sufficient;—he never had a pleasant home.

It is knowledge, and not money, that is the chief source of every pleasurable emotion that may be caused by a building.

THE CHIMNEY.—The chimney is a most expressive feature, and deserves to be brought prominently into notice, in domestic architecture. As a general rule, it is desirable, in this climate, to build the chimneys in the body of the house, and not in the outside walls.

THE COLOUR OF BUILDINGS.—In arranging the tints for the exterior of a country house, it is better to make them a little warmer than will be entirely satisfactory, at first, because the pigments must certainly fade more or less, in a few months, and the permanent effect is what should most be thought of, at starting. In painting a country house, the aim should be to give it a cool effect in summer, and a warm effect in winter; and this is not so difficult as might at first be supposed, because all combinations of colours are mutually dependent on each other; and the marked contrast in the appearance of the surface of the soil, gives an opportunity, when choosing the tint for a house, to select a happy medium, that shall be suited to more seasons than one.—*Vaux's Villas and Cottages.*


FOOD.

The past year is supposed to have been one of great economy in respect to all unnecessary household wants and general expenditures, yet food has been cheap in New York, and the annual returns show that the quantity consumed has been more than last year, and greater than in any previous year. The number of all animals slaughtered in New York last year was 940,819, and in 1885, 1,238,101, a net increase of more than one-third. The increase is, however, mostly in beefs and swine, the latter having nearly doubled in number. The most material increase has been, however, in

1859.]

bees, of which there were sold 191,374, or 30,000 more than in 1857, and a larger number than ever before in one year. The average prices have been lower than for some years. The average price has been nearly 10c. per lb., and as a consequence the value of beef sold has been nearly \$12,000,000. The use of veal calves seems to be decreasing, since the number sold has declined from 68,584 in 1854, to 34,218 in 1857, with a small increase this year. The number of sheep ranged at 588,741 in 1855, and at 447,413 in 1858, while the number of swine used has risen to 551,479. Changing prices and changing habits of the population has no doubt much to do with the variation in the kind of food used. The prices of salted provisions have closed higher for pork than last year, but not so high as in 1857. Mess pork sells at \$7.75, against \$9 last year. The quantity of flour used during the year has been large, and the price has varied much, closing with the year at nearly the same rates as at the close of last year under the panic influence, say \$4.29 a 5.10 for State. The saving in the last year, as compared with 1856, has been nearly \$5,000,000 in the city of New York, of which nearly \$2,000,000 is in beef alone, \$2,000,000 in flour, and the balance in other articles. This is an important item in a year of small business, since it aids in the economies of the family. It does not, however, promote a larger general business, until it has been prolonged through a year of reviving employment such as that which is now before us. Similar influences have prevailed in all the Atlantic manufacturing and commercial sections, and the revival of operation promoting increased employment, now begin to make those elements active towards the improvement of a demand for goods where it has long been comparatively dormant. If the Western trade no longer occupies the first position, the "near-by" and city trade will soon resume its former importance, and has in fact already promoted a demand for finer descriptions of goods. This course of trade is more adapted to a restricted credit, and must be safer as well as more lucrative.—This course of trade is more adapted to a restricted credit, and must be safer as well as more lucrative. The future growth of credit will be slowly proportioned to the restricted condition of the West.—*U. S. Economist.*

CHUFAS.—A correspondent of the "*American Cotton Planter*," for April, says: "Do you know that *chufas* are the very best food in the world for fowls!—especially those designed for the table. They give a sweet and delicate flavour to the flesh, which no other food imparts. I made this discovery by accident,—our chickens have been in the habit of stealing *chufas* from a neighbouring field, I noticed a very great improvement in the flavour. After a while they became so fond of the *chufas*, that it was impossible to keep them out of the field; they lived on them entirely; not taking any other food which we threw to them, and the flesh became absolutely delicious. I do not believe any game in the world can be better than a *chufa*-fed chicken."

 The next annual Fair of the North Kentucky Agricultural and Mechanical Association will be held at the Fair Grounds, near the city of Maysville, commencing on Tuesday, the 11th of September, and continuing four days.

BIRDS AND THEIR FOOD.

If we cannot persuade our readers, every one of them, to love the cheerful, happy, merry little birds that enliven so much our country life, let every utilitarian among them take to heart the lesson which the following facts afford him. The comments are from the *N. Y. Tribune*:

BIRDS—THEIR FOOD.—In the report of the proceedings of the Boston Society of Natural History in September, 1858, we find an instructive paper from Prof. Treadwell of Cambridge, giving a detailed account of the feeding and growth of two American Robins (*Turdus migratorius*, Linn.) during a period of 32 days, commencing from the 5th of June.

"When caught, the two were quite young, their tail feathers being less than an inch long, and the weight of each about 25 pennyweights—less than half the weight of the full-grown bird. Both were plump and vigorous, and had evidently been very recently turned out of the nest. He began feeding them with earth-worms, giving three to each bird that night; the second day, he gave them ten worms each, which they ate ravenously, thinking this beyond what their parents could naturally supply them with, he limited them to this allowance.—On the third day, he gave them eight worms each in the forenoon; but in the afternoon, he found one becoming feeble, and it soon lost its strength, refused food and died. On opening it, he found the crop, gizzard, and intestines entirely empty, and concluded, therefore, that it had died from want of sufficient food, the effect of hunger being perhaps increased by cold, as the thermometer was about 60°. The other bird, still vigorous, he put in a warmer place and increased its food, giving it the third day 15 worms, on the fourth day 24, on the fifth 25, on the sixth 30, and on the seventh 31 worms. They seemed insufficient, and the bird appeared to be losing plumpness and weight. He began then to weigh both the bird and its food, and the results were given in a tabular form. On the fifteenth day, he tried a small quantity of raw meat, and finding it readily eaten, increased it gradually, to the exclusion of worms; with it the bird ate a large quantity of earth and gravel, and drank freely after eating. By the table, it appears that though the food was increased to 40 worms, weighing 20 dwts. on the eleventh day, the weight rather fell off; and it was not until the fourteenth day, when he ate 68 worms, or 34 dwts., that he began to increase. On this day the weight of the bird was 24 dwts.; he therefore ate 41 per cent more than his own weight in twelve hours, weighing after it 29 dwts., or 15 per cent less than the food he had eaten in that time. The length of these worms, if laid end to end, would be about fourteen feet, or ten times the length of the intestines. To meet the objection that the earth-worm contains but a small amount of nutritious matter, on the twenty-seventh day he was fed exclusively on clear beef, in quantity 23 dwts.; at night, the bird weighed 52 dwts.—but little more than twice the amount of flesh consumed during the day, not taking into account the water and earth swallowed."

A man eating in the same proportion would consume 70 lbs. of flesh and five gallons of water.—Four young robins would require, according to the consumption of this bird, 250 worms, or their equivalent in insects or other food, daily. After

the thirty-second day the bird was fed for eighteen days on an average of 15 dwt. of meat, two or three earth-worms, and a small quantity of bread each day; the whole being equal to 18 dwt. of beef, or 36 dwt. of earth-worms; and it has continued to eat this amount to the present time. The food was never passed undigested; the excretions were made up of gravel and dirt, and a small quantity of white semi-solid urine.

Every admirer of trees may derive from these facts a lesson, showing the immense power of birds to destroy the insects by which our trees, especially our apples, elms and lindens, are every few years stripped of their foliage, and often many of them killed. The food of the robin, while with us, consists principally of earth-worms, various insects, their larvae and eggs, and a few cherries; of worms and cherries they can procure but few, and those during but a short period, and they are obliged therefore to subsist principally upon the great destroyers of leaves, canker-worms, and some other kinds of caterpillars and bugs. If each robin, old and young, requires for its support an amount of these equal to the weight consumed by this bird, it is easy to see what a prodigious havoc a few hundreds of these must make upon the insects of an orchard or a park. Is it not, then, to our advantage to purchase the service of the robin at the price of a few cherries.

[From the *Fincastle (Va.) Democrat.*]

BOOK-FARMING AND ITS OPPONENTS.

Almost anything will do to tell and believe, till it gets into a book or newspaper, when it is immediately denounced as a Yankee lie or humbug. We have heard some of the tallest yarns from neighbour farmers, about their growing crops of corn, wheat and tobacco, which no one would dispute or profess any doubt of its truth.—But if some one in the company should relate a tale he saw in print, even more probable than that uttered by his boasting neighbours, it would at once be denounced as a romance or humbug.—Why there should be such a prejudice against printed accounts of agricultural experiments and their products, we are at a loss to know. If, however, a printed account reaches us of a game of Chess, played in London or France, a duel, horse race, dog or prize fight, no doubt is expressed of their truth in every particular, while they furnish subjects for interesting fireside and street-side conversation, till something fresh from the same kitchen, arrives. These thoughts were suggested by reading a number of very interesting articles in the April Number of the "American Farmer," just to hand, and for inspection at our office, but not to lend. In looking over the articles contained in this Magazine, we felt ourselves yielding to a wish that we were able to send the work one year, to each of our readers who possesses a farm, however small or large. But our charity and good wishes, all vanished when we remembered—it is nothing but book-farming.—Then our charity condensed itself into the thought of transferring several valuable articles into our columns; but we were again met by the recollection, that it would be said of them: "They are nothing but book-farming, so we concluded at the end of this article, to all who would put themselves to the trouble of reading, that the American Farmer can be had in pamphlet form at \$1 a year in ad-

vance, by addressing N. B. Worthington & Co., Carroll Hall, Baltimore. And that it contains advertisements of valuable agricultural implements; grass seeds of the best varieties; Spring and Summer garden seed; Phosphatic guanos; mowing and reaping machines; anti-freezing pumps; and portable bake ovens, with which dinner can be cooked in the fields, where the hands are at work; seed sowers, and the celebrated squash that sells in Boston for six cents a pound; grape vines and hedge plants, which will make a fence that a porcupine can't creep through, and a deer can't jump over; new and rare plants, ornamental trees, asparagus roots, and a fine farm in Eastern Virginia for sale; New Fertilizers; a harvester with which a Virginia gentleman can sit in his carriage and cut his own crops—all, all from book-farming.

CULTIVATING THE CANTELEUP.

All our readers with gardens or lots of ground to cultivate, should remember, at this time, that canteloupes can be raised with all the certainty of the cucumber and the pumpkin. They require a little more care in preparing and selecting the ground. A sandy loam is always to be preferred; but any light, friable soil, with a southern exposure free from prevailing moisture, will answer. The ground should be converted into a fine tilth—the hills should be dug out to the depth of ten or twelve inches, eighteen inches in diameter, which should be filled with one-third well rotted short manure, one-third good sand, (should the soil not possess any,) and one-third rich earth, well mixed. The hills should be from eight to twelve feet apart each way, as room may allow, and the seed, say five to a hill, should be planted over the whole hill, an inch below the surface. When the sprouts are two inches high, give them a fair sprinkling of wood ashes while the dew is on, or after watering them, and repeat three or four times during the two following weeks. This will drive away the insects. When they are six inches high, remove all but two or three vines, according to the space between the rows, and carefully put round, not to, the vines, a little guano. In removing the weeds from the beds, the vines should not be disturbed, as the rootlets which penetrate the earth from the vines and which supply the principal nourishment to the fruit will be destroyed. Nothing more is needed to yield an amount of this delicious melon that will astonish the uninitiated, and of a quality unequalled by the best productions of Jersey. At least this is our experience.—*Germantown Telegraph.*

WILLOWS—HOW TO DESTROY THEM.—"I will give you the method of getting rid of the common branch willow, which I have practised with entire success for several years. * * * * The time of year will vary two weeks in difference of seasons, in the forwardness or backwardness of the spring, but say the 25th day of April, take a hatchet, large knife, or a common club axe will do, and strip the bark to the ground, and let it hang; when the bark leaves the wood freely, without leaving any of the inside sticking, the season is right. Trees treated in this manner will not sprout from the roots, as when cut down, which is the advantage gained."—*Am. Cotton Planter and Soil.*

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